EKISTICS

HOUSING AND PLANNING ABSTRACTS

FOR PRIVATE CIRCULATION

ΟΙΚΙΣΤΙΚΗ

APRIL 1958

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E K I S T I C S

HOUSING & PLANNING ABSTRACTS

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EDITORIAL

In applying the housing and planning techniques of western society to other cultures, which is one of EKISTICS' major interests, it seems that two things take place. The techniques are 'accepted' by the non-western culture to a variable extent, but these same techniques become altered in their application to the new setting. In the articles covered in this issue of EKISTICS both aspects are evidenced.

There are several examples of the benefits of applied technology in housing, the less developed areas: Examples in India, Israel, Malaya and Nigeria show modern techniques adapted to local management, materials and customs. It is interesting to note the range both of house costs and of the estimation of housing need in different places. The simple compound dwellings of 5 and more rooms in Tema, Ghana, appear to cost about $50 to erect and are directly related as the immediate needs and way of life of the people. Two room houses in Malaya seem to cost about $600 (spread over a ten year purchase) and the 2 room dwelling built in Lagos, Nigeria, with internal sanitation, cost nearer $1,000, though a government subsidy reduces the rent paid by almost half.

In Lagos a man with an annual income of less than about $270 can claim priority of housing need: in Malaya it seems that the line is drawn at an annual income less than about $700.

Again in Lagos priority is assessed as the result of a pointing system which gives almost equal weight to length of residence in the area continuity of employment, present conditions of overcrowding and of illhealth: i.e. an assessment of stability of character and need in terms of community health. A different approach is taken by Josephina Albano in her discussion of the human factor in South America in slum rehabilitation. She considers priorities of need for housing assistance should be based on family size, income, present housing conditions (including separation of parts of the family) and location of the place of work: i.e. the social wellbeing of the family is here pre-eminent.

A very direct effect of cultural pattern on actual site planning is shown in the work of Fry and Drew in Tema Village, Ghana, and a good picture of the impact that local habits must have on design is given by Teodorovic in his discussion of the furnishings of the rural Egyptian house; though some of the rules included in Hall and Oberg's checklist might cause one to hesitate in adopting his recommendation of a hand pump in each house. In Mohamedan countries the daily visit to the well is sometimes the only occasion upon which the woman may leave the confines of her house and gossip with her friends. There was one case in North Africa where the men of a village begged a western architect to remove the water taps from the kitchens so that they might be saved from the continual complaints of their women folk.

The field of planning also provides examples of the same interplay of cultural factors. Taylor's description of the interaction of cultural land tenure patterns and social responsibility in England serves as an excellent background. And Leduc's discussion of the French experiment in social credit for Equatorial Africa brings many of the difficulties encountered into focus. Violich, in describing the city planning activity in Latin America, shows how easy it is to go too far in comparing less developed with more developed societies. In contrast to this, we provide a more basic analysis of the plan for Brazil's new capital. One small but excellent example of physical planning, the Vienna

Opera Underpass, is shown to be an essential part of its own setting by Mr. E. Sekler.

A more general viewpoint is provided by the check-list designed by Hall and Oberg, two anthropologists interested in giving a framework for the better understanding of different cultures. A definition of "primitive" cultures, held by many thinkers on the subject, is those which are "non-literate." If this is so, then Luther Evans' discussion of illiteracy is very much to the point; for with such vast numbers unable to read or write--even in Western societies--the folklore patterns of housing and planning deserve even more consideration.

EKISTICS is compiled by Yvette and Lawrence Mann under the direction of Prof. J. Tyrwhitt. Enquiries or comments should be addressed to 77 Trowbridge Street, Cambridge, Massachusetts, USA.

NOTE: The lettering at the top of each page refers to Doxiadis Associates system of classification. The figures below each title refer to the Universal Decimal Classification.

HOUSING

D.E.K.O.

Architectural Design
Work in the tropics - TEMA VILLAGE, GHANA.
Volume 28, February 1958. pp. 70-72. Illustrations.
728: 711.423: 39 (66)

1. This presentation of the work of Fry and Drew in the tropical village of Tema in Ghana, under the charge of Norman Creamer, shows the very special conditions of cultural folk pattern which had to be considered in the design. Besides Mr. Creamer the assisting architects were Theo Crosby, Geoffrey Knight and Harold Pugh. The text is reproduced in full.

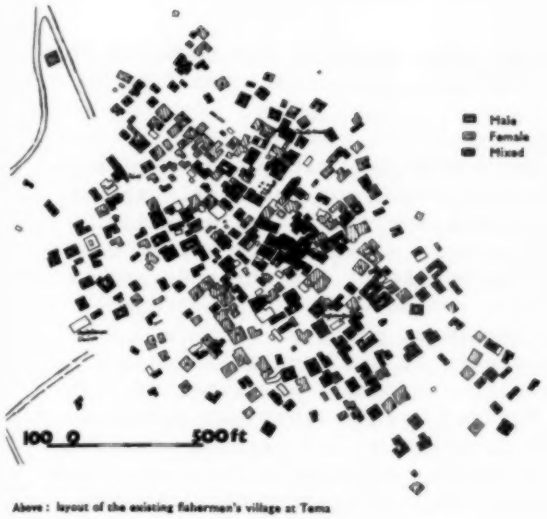
2. The new harbour and town at Tema, now under construction eighteen miles east of Accra, has necessitated the rebuilding of the existing village of Tema, which is at present situated in the new town area.

3. The problems involved in planning the new village are of a rather special character and revolve almost entirely around the social and family life of the villagers. The Ga people are one of the principal tribes of Ghana. In the eighteenth century, they settled in the coastal areas, prior to the building of the towns, working together as fishermen and farmers, with their own agricultural and religious rites. Tema village was built about 1800 when scattered farming settlements gathered together into townships and formed military organisations to combat slave trading and threatened extermination.

4. Despite the tremendous changes which have taken place in Ghana in recent years, sole outlying villages have been little affected and have maintained their social habits and customs. The main occupation of the Tema villagers is still fishing, carried out in dug-out canoes; also fish curing, salting and smoking, allied with farming. Although a proportion of the coastal fishing communities migrate with the fish, living temporarily in other areas, the Tema villagers seldom move farther afield than Accra, and they have thus maintained a stronger identity. They are approximately 200 canoes in the village with a visiting fleet varying from 10 to 30 canoes. The new harbour plan includes a separate fishing harbour, which will have provision ultimately for 60 or more motor fishing vessels.

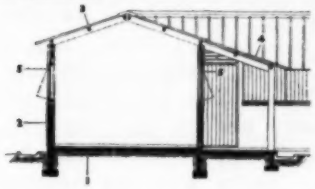
5. The decision to create a new village rather than absorb the occupants into the new town, was made so that they should maintain their unity and social structure. The men and women of Tema village mostly live in separate compounds. The men live with their brothers and male relations in varying size family groups. They visit their wives' compounds to see their children and are joined by their sons at the age of 13, when they leave the mothers' compound. The male compounds are thus all of one family or 'house.'

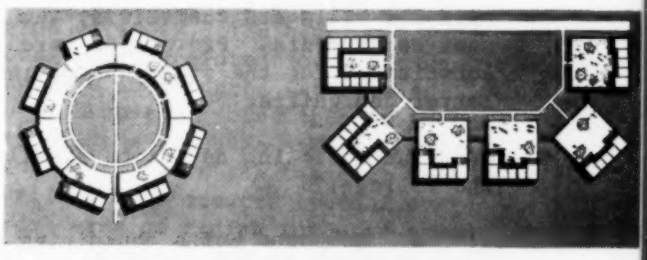
6. The women live with their mothers even after they have married. Their compounds often contain three to four generations made up of several 'houses' and the children of different houses are brought up together. A man has the right to demand that his wife lives with him, and approximately 18 per cent of the existing compounds contain mixed family units. The women do not object to polygamy, which allows them their independence and freedom to travel for a few weeks on trading expeditions, the profits therefrom being their own. Their cooking duties and child welfare is meanwhile undertaken by other women in the compound. The cooking and clothes washing takes place in the women's compound and the men are entirely free from domestic chores. The food is provided by the husband, shared by his mother-in-law, and taken, cooked to the men's



Above : layout of the existing fishermen's village at Tema

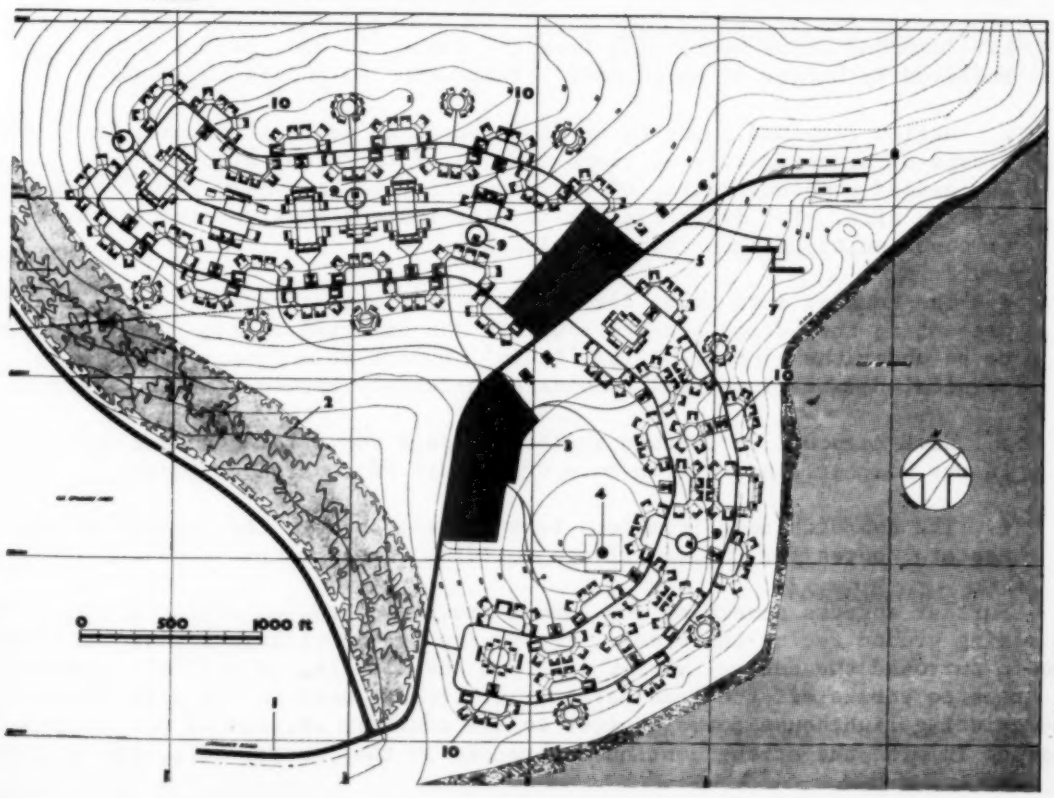
Below : section of typical room unit. *Key :* 1 4 in. concrete slab finished with 1 : 5 cement slurry 2 6 in. external hollow block wall rendered both sides and finished in cement paint. Cross-walls and verandah walls in 4 in. hollow blocks rendered both sides 3 lightweight asbestos cement Trafford tile roof with in situ cement ridge. Generally, the purlins are 4 in. by 2 in. and are bolted to 6 in. by 4 in. concrete pads, which are cast in situ on top of cross-walls. Wall purlins are secured with wrought iron straps bedded into the blockwork 4 verandah purlins are bolted to an RC beam extension of the cross-wall pads and to the RC columns 5 top hung open out solid timber shutters with fixed timber louvres above





Above : setting out plans for the new housing units which enable the existing social organization to be perpetuated. Note the variety of accommodation possible within the walled compounds and the ease with which extensions can be made without destroying the pattern

Below : site plan of new village. *Key :* 1 approach road from Tema Town to the west 2 tree plantation 3 central market and shopping area 4 lighthouse 5 community centre and playing field 6 churches 7 schools 8 private building development 9 village elders' houses 10 latrines



compound by the children. The women, who sleep four and five per room and live in the open compound, trade and cook, in a leisurely way, at an open fire on the ground seated on low stool.

7. The present conditions in the village are unhealthy, without proper sanitation; the air is polluted, fly nuisance is excessive, and the local lagoons, connected with religious rites and local fetishes, are sources of mosquito breeding. The houses are built of rough mud plaster walls, which are allowed to crumble away before any repairs are undertaken. Local thatching is practically non-existing, most of the buildings being roofed with rusty corrugated iron sheets. There are few handicrafts and the local pottery is crude. A social survey of the existing village was prepared by the Department of Social Welfare and Community Development, who scheduled the number and sizes of individual compounds required. The scheme was carried out in close consultation with the villagers themselves, the Tema Town Corporation and various Government Departments. Prototypes were built but double pitch roofs have since been substituted for the single pitch roofs, because the villagers considered the latter undignified.

8. The following decisions finally determined the structure and layout of the village:

a. Compound units containing from 5-16 rooms to be grouped round an open court-yard; all units to be enclosed by wall surrounds of the same overall size; the smaller units to be laid out so that additional rooms could be added later, possibly by the occupiers themselves, without destroying the external architectural unity. There are 248 walled compounds.

b. Compound units containing from 1-4 rooms, to have garden extensions, enclosed by hedges as an economy. There are 150 hedged compounds.

c. Walled compound units to be distributed so as to from small localised groups of approximately 45 rooms made up of different size compound units. The hedged compound units, of varying sizes, to be evenly spread throughout the site. The villagers are to distribute themselves amorst the compound units to their own satisfaction.

d. The housing area to be divided into four unequal sub-sections, representing the social structure within the existing village; each section to be under the control of its 'Elder', housed at a focal point. No physical demarcations were considered necessary between the sub-sections.

e. Each compound to contain sheltered space for relaxation and cooking in wet weather, in addition to a 6ft. width of covered verandah.

f. The approach road from Tema town to pass through the village to the eastern shores for future private building development.

9. Further apsects governing the layout are the contours; siting the housing on rising ground facing the breeze; the desire of the villagers that the housing should surround the central market area and the planting of a 500ft. wide belt of trees to screen off the Tema harbour oil storage area to the west of the site. The existing lighthouse forms a pivot to the southern section of the village. Bearing in mind the strong continuous breezes on the coastal belt, the complex

Architectural Design. Work in the tropics - Tema village Ghana. -3

requirements of compound grouping and the villagers' customary enclosed compound living conditions, it was not considered necessary for all units to face directly towards the breeze, but all rooms are well cross-ventilated. The main groups of walled compound from a backbone, disposed throughout the scheme on either side of the site road. These are itermingled with the hedged compound groups. The latrines and wash-houses, connected to main drainage, are distributed throughout the area within 120 yard distance from any compound. In addition to the market area and shops, a community centre, four churches and a police post are centrally sited. Two schools are planned to the north-east near the shore.

10. Structure - The Tema Development Corporation wished to sub-divide the contract and employ a considerable number of local contractors. The structure is, therefore simple, widely used, and conforms to local practice and custom - i.e. 4 in. and 6 in. hollow block walls, timber and asbestos sheeted roofs, and precast R.C. columns supporting the roofed verandah. The blockwork is rendered and painted externally for additional weather protection. The use of Laterite blocks, made of stabilised soil, average 15-18 parts Laterite soil to 1 part cement, was investigated. Contractors, however, quoted cheaper prices for sand and cement blocks, 6 to 1 mix, owing to the breakage and the extra making good necessary with Laterite type blocks. Windows are top hung solid timber panels under fixed timber louvre ventilation, protected by roof overhangs. All the timber is creosoted. The standards of finish throughout were closely controlled by a fixed overall budget. The total scheme contains 2,274 rooms. The final costs are £307 4s. 6d. per room. including external works, latrines, drainage, water and electricity supply, and main ring road. This figure excludes only the public buildings and the market.

11. In other words the total project of almost 400 compounds averaging more than 5 rooms apiece cost around $19,000 including all site development works - or approximately $48 per compound.

£1. 0. 0. = $(US)2.70

E.N.S.T.

Alweyl, A.; Fichmann, J.; and Karni, J.
PRECAST REINFORCED CONCRETE ROOF TRUSSES FOR PUBLIC HOUSING SCHEMES.
Research Paper No. 5, Building Research Station, Technion, Israel Institute of Technology, Haifa, Israel, 1957. (In Hebrew with English summary.) Illus.
69.024.8 (56)

1. This publication comprises the findings of a project of survey and research on problems relating to the manufacture of precast trusses for pitched roofs in public housing schemes. There were three main parts to the survey-research project.

2. The first part is a survey of the principle types of precast systems extensively used during the past three years in public housing schemes in Israel. On the basis of the experience in such schemes, the following conclusions were drawn:

a. From the viewpoint of the principle of design, all types of precast systems were found satisfactory.

b. "Closed" trusses (having a horizontal tie-bar) have certain advantages over structures with separate anchor bars.

c. From the view point of resistance to corrosion, all-concrete structures are preferable.

3. The second part was comprised of the results of load tests carried out on trusses and truss elements. The conclusions are as follows:

a. The average safety factor of the assembled structure, related to the ultimate load, was 3.5.

b. Failure was due, in all cases, to rupture of diagonal members.

c. The average safety factor for the structure as a whole was higher than that found for the diagonal members. This is probably due to the effect of partial restraint of the elements.

4. In the final part, a comparative analysis of costs of precast and wooden structures was made. These were the conclusions of this part:

a. The precast structure was found to be 9% cheaper than the wooden.

b. Foreign currency expenditure was found to be 40% lower for the precast structure, as compared to the wooden one.

c. The cost of labour on the site was found to be 6% more expensive in the precast structure.

A comparative analysis of foreign currency expenditures for different types of trusses was also made.

5. One further consideration of the study was that of the local precast industry in Israel. Four factories were studied in detail, and recommendations were made. The need for standard specifications for the local precast industry was especially emphasized.

Israel Institute of Technology - Research Paper No. 5.

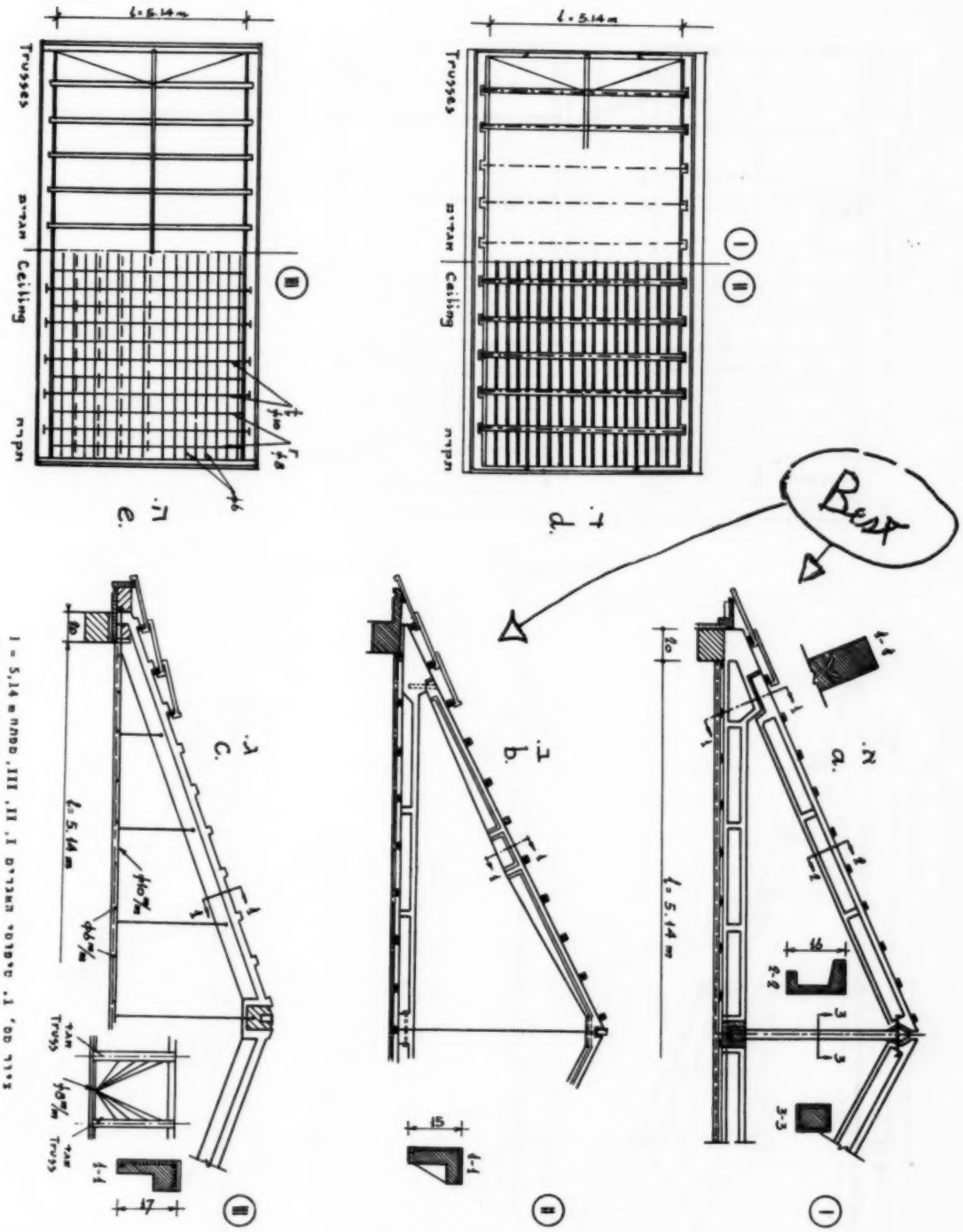
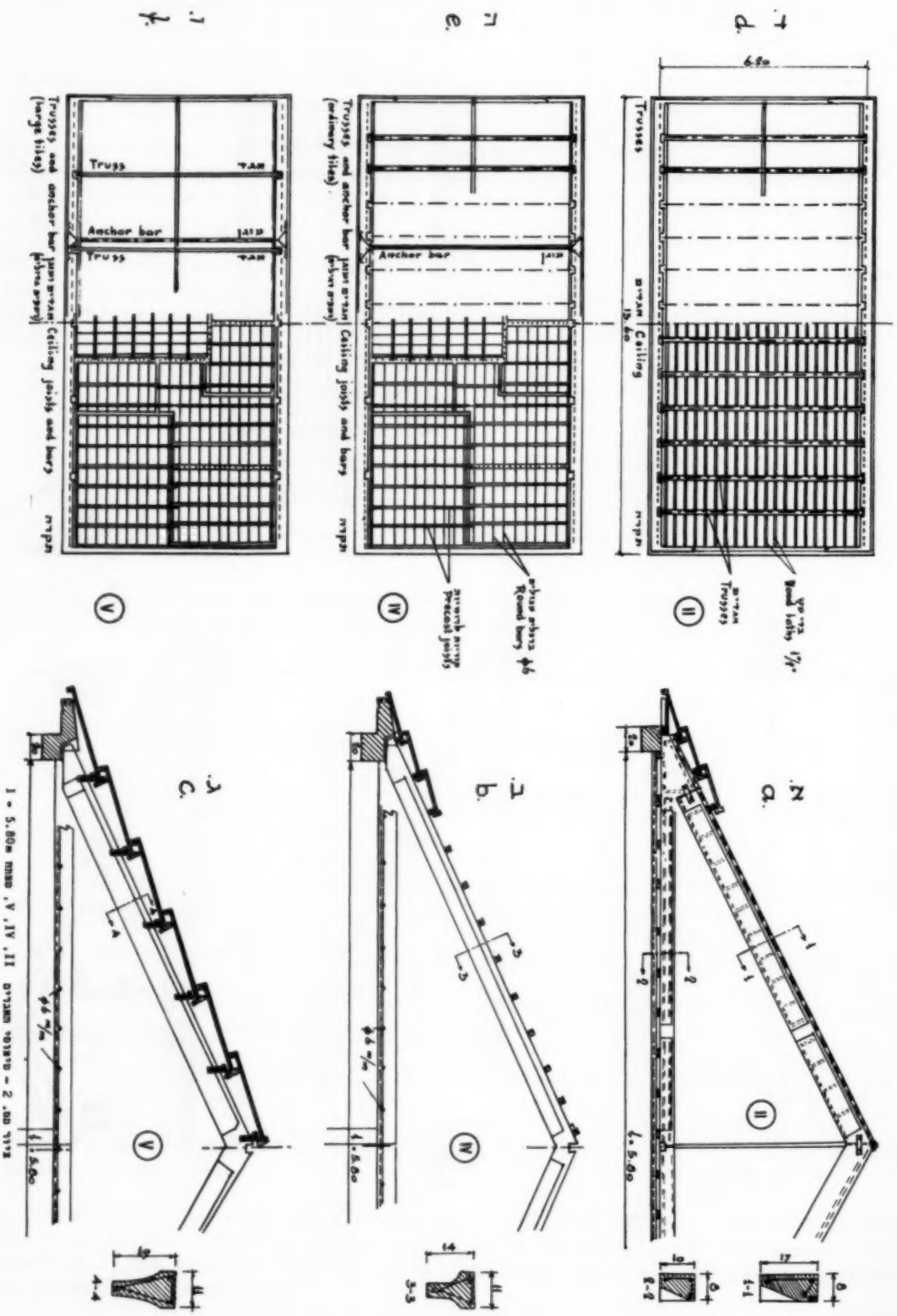
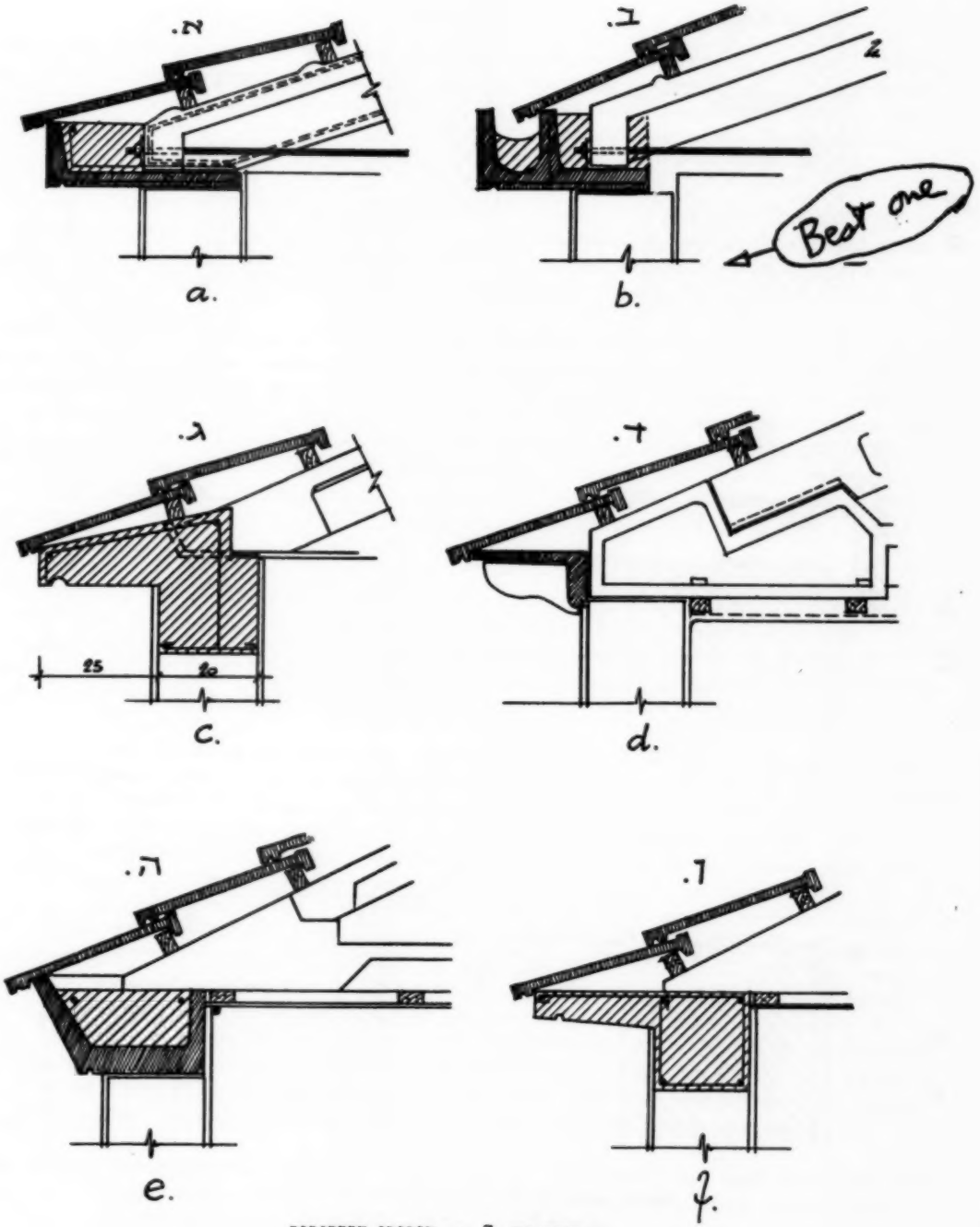


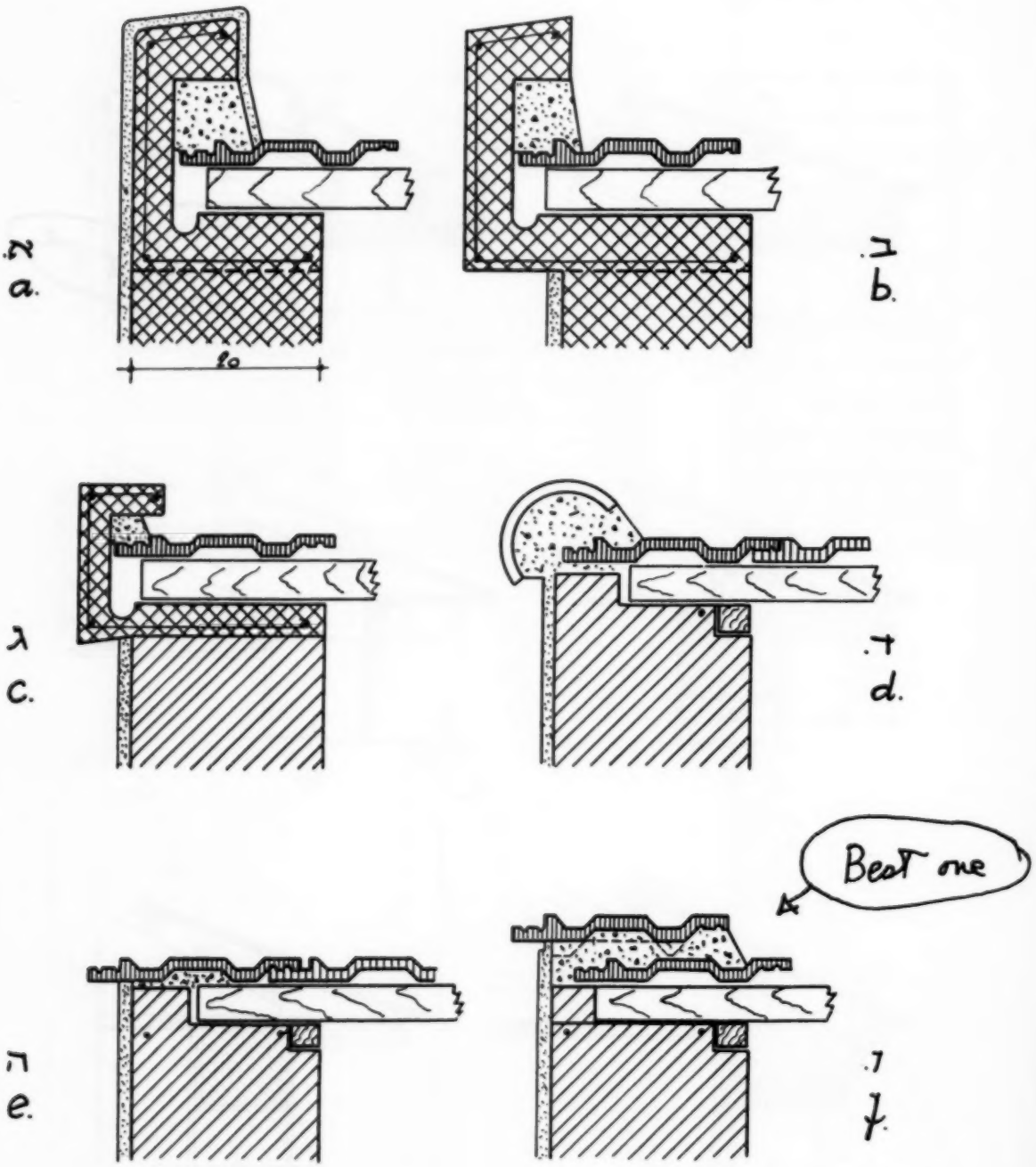
Fig. No. 1 Types of trusses I, II, III, span l = 5.14 m

סוגי קורות I, II, III, מרחק l = 5.14 מ'


Trusses
Ceiling
Anchor bar
Ceiling joists and bars
Precast joists
Round bars
Section 1-1
Section 2-2
Section 3-3
Section 4-4



ציור מס. 3 - טיפוסי הכרכובים.
Fig. No.3 Types of eaves



ציור מס. 4 – פרטי התקנת הרעפים
מעל לגמלון.

Fig. No.4 Detail of tiling above gable

E.O.P.W.

Henderson, J.W.
HOUSING IN LAGOS, NIGERIA
Housing Review, 7:1 (Jan.-Feb., 1958) pp. 9-11. Illustrations.
728.3 (66)

1. This discussion of new housing schemes in Nigeria' Federal Capital, Lagos, covers the period of the past two or three years--during which the town is developing very rapidly with the coming of self-government to the country. Mr. Henderson is the Chief Executive Officer of the Lagos Executive Development Board.

2. The population of Lagos is between 300,000 and 400,000. The center of the city, on Lagos Island, is said to be a "large insanitary and overcrowded area of slums." The recognition of this condition had produced the call for a rapid improvement in living conditions and the building of housing estates.

3. Three types of housing are at present handled by the Lagos Executive Development Board, a "statuatory body with a dual role of town planning authority and executive development authority for the improvement of Lagos. The special nature of this organization enables it both to control private development and to initiate publicity sponsored large scale housing schemes. Within the area of Surulere, to the north-west of the township, schemes for the rehousing of persons displaced by slum clearance, subsidized housing to accommodate low income groups, and housing for freehold sale to indigenous middle-class people are proceeding.

4. The large slum clearance scheme is being carried out in the centre of Lagos, and provision must be made for the rehousing of persons displaced. This rehousing is now taking place on a housing estate four miles from the centre of Lagos and within the township. In this area balanced neighbourhood development has been planned on a considerable scale.

5. The low-cost housing schemes are of designs very similar to those of the rehousing schemes. The estates are laid out on modern lines, with the provision of appropriate roads, drainage, sanitation and water supply. The programme comprises some 2,211 single-storey terraced houses of between one and four rooms. Most of these will be self-contained and have kitchen, shower and W.C. All will be served with a piped water supply, water borne sanitation and electricity. Kitchens will be fitted with a Hurl stove, water supply, sink, draining board and shelving. Single-roomed houses will have their own kitchen and communal bath and sanitary facilities will be provided in blocks for each six houses. In addition to the single storey types, there will be two-storey flats and two-storey-houses with similar standards. Room size is usually 12 ft. by 10 ft. Rents are subsidized by the Federal Government. While the economic monthly rent per room per house (including taxes or rates) is 48s., the rents charged in the rehousing schemes is only 25s. per room per month; and the rent for the low-income (under £100 per year) is 16s. 6d. per room per month.

6. The estate management aspect of the work is considerable, and includes the selection of tenants from among those displaced by slum clearance operations and eligible low income group workers. Eligibility was extended only to those having an income of less than £100 per year, ten years residence in Lagos, and continuous employment for at least five years. More than four thousand applications were received; and priorities were determined by the following point system:

£1. 0. 0. = $(US)2.70

Length of Residence in Lagos. . . . . 20 points
Length of Continuous Employment . . . . . 30 points
Degree of Existing over-crowding . . . . 30 points
Special Health reasons for rehousing . . 20 points

Two welfare officers deal with all social problems arising within families and act as a liaison to the schools, clinics and other facilities. Rent collection has been made quite efficient by successful innovations.

7. Efforts are made to establish amenities within the housing estates, and care is taken in the layout of these projects to preserve existing trees and landscape features. Also, a voluntary committee was set up to organize garden development by the tenants. An annual garden competition within each housing estate is held, and there is competition between estates.

8. The Board is additionally developing land and erecting houses for freehold sale to the public. This is being done with a view to encourage the indigenous middle-class population to purchase houses for owner occupation. A building society has been set up jointly by the Federal Government and the Colonial Development Corporation, and the Board. After the completion of these houses they can be sold either outright to members of the public or to persons wishing to avail themselves of the facilities offered by the building society.

9. e.g. the economic annual rent for a 4 room house in Lagos (with internal sanitation works out at £79. 4. 0. or about $200.

E.S.T.

Newcombe, Vernon Z.
LOW COST TIMBER HOUSES IN MALAYA
Prefabrication, January 1958, pp. 112-115. (Illustrations.)
728: 691.11 (59)

1. This article describes the activities of the Malaya Housing Trust, which is the housing agency of the Federal Government, in the prefabrication of timber houses for low income families.

2. Earlier prefabrication experiments, using precast concrete, were discontinued because of a lack of any significant savings over conventional construction and a general prejudice against 'prefabs.' At the same time, the Trust's general policy has changed--because their earlier activities in purchase housing had stimulated enough private activity so that the Trust's participation in this sector was no longer necessary.

3. The Trust is now directing its attention to housing for the lower income group: those earning less that M$200 per month, which is about £23* or US$64.40. The new policy is to provide for rental housing and for 'rent purchase' housing, by which the occupiers by houses by paying inclusive rents for periods of about 10 years without initial deposits. The 'rent purchase' housing is used on the fringes of urban areas and in rural areas where problems of elaborate housing management are to be avoided. Costs must be kept very low, but construction must be of a resonably high standard to provide security for what amounts to a ten-year loan.

4. The system used in rent purchase was based on equated annuities over a 10-year period at 2% interest. The purchaser is required to meet a monthly rent purchase instalment of M$15 (35s). Where pressure impregnation of timber is available the repayment period can be safely extended to 15 years, which will reduce the monthly instalment to M$10 (24s).

5. "There is probably wide agreement that prefabrication of housing does not lead to any direct saving in cost although there may be an advantage in speed of erection at the site. The time factor does not normally count in social housing and ultimate cost remains the predominant criterion. Prefabrication may provide other advantages, such as the employment of a number of craftsmen and workmen other than traditional building artizans." The cost of gasoline in Malaya made prefabrication uneconomical if the site was more than 10 to 20 miles from the factory, but there were two reasons for carrying out experiments with a system suitable for site prefabrication:

a. "Supervision of construction is one of the major problems with some of the building sites in remote areas at distances of up to 250 miles from the head office. Details of construction can be checked more readily by the limited number of skilled supervisors available, if components are prefabricated before assembly.

b. "A simple form of prefabrication might lend itself to a form of aided self-help housing where future occupants participate in the making of components and site assembly. This is obviously a desirable aim in rural areas where orthodox contract procedure can normally not apply."

*One Malayan dollar = 2s. 4d. = US$0.33.

Prefabrication, January 1958.

Traditional Malay house

Placing of asbestos cement roofing sheets and gable louvre

Side elevation of completed house

Rear elevation of completed house

Newcombe, Vernon Z. Low cost timber houses in Malaya -2

6. The natural building material of Malaya is timber, and there is an abundant supply of it in the jungles. (Bamboo is also used in some areas both structurally and in the form of woven mats as a wall screening material.) After study of traditional forms of construction, a prototype house was designed and constructed.

7. This house consists of a 240 sq. ft. room in timber construction raised 4 ft. above the ground (in keeping with Malaya tradition); behind this room is a 100 sq. ft. kitchen and bathroom annex at ground level and built in concrete brickwork. The timber portion is based on a 4 ft. planning grid and has a rigid frame to which roofing sheets and wall panels (4 ft. by 8 ft. high) are attached. The posts of the frame are supported by metal shoes to decrease danger of attack by dampness and white ants. These shoes can be omitted in a few locations where tanalith treatment of timber (pressure impregnation with proprietary salts to 0.35 lb. per cu. ft. net dry retention) is available. A one-inch gap is left between the timber and the brick part of the house to avoid an 'ant bridge.' The system can be readily adapted to other house type plans based on a similar planning grid.

8. In costing the prototype house it was found that the raised timber portion cost M$1,020 or £120 and the brick annex cost M$580 or £65--making a total cost of M$1,600 or £185. It is held likely that well organized construction of a larger number of houses could lead to savings of about 10% of the cost. In the analysis of the cost the following breakdown is presented:

(Carpenter, Roofer and Ironmonger)	-Timber	32.0%	
	-Corrugated asbestos, cement roofing sheet and ridges	22.0	
	-Ironmongery	4.5	
	-Bamboo screen fences	1.7	
	-Labour	11.0	(71.2%)
(Bricklayer and Pavior)	-Chippings and sand	2.5	
	-Concrete bricks	8.0	
	-Precast concrete slabs in year and chimney cover	2.5	
	-Labour	12.6	(25.6%)
(Painter)	-Wood preservative and paint	1.0	
	-Labour	2.2	(3.2%)
		100.0%	

The labor and construction time was also analysed. For the prefabrication stage a total of 9 man-days were required, of which 6 were skilled and 3 unskilled. And for the site erection stage a total of 34 man-days were required, of which 24 were skilled and 10 were unskilled. Thus of the total 43 man-days required, 30 were skilled and 13 were unskilled.

D.E.K.

Teodorovic, B.
EQUIPMENT AND POSSESSIONS IN THE EGYPTIAN RURAL HOUSE, EXISTING AND PROPOSED in United Nations, Technical Assistance Programme. Rural Housing and Village Planning in Egypt, TAA-EGY/9, 30 August 1956. (Appendix VI)
645 (62)

1. First given as a lecture at the FAO Training Centre in Home Economics by Mr. Teodorovic, this paper is an appendix to a discussion prepared for the Egyptian Government. The terms of reference of the broader study were that Mr. Teodorovic should undertake study, programme elaboration, construction organization and specialist training with regard to rural housing and village planning for the Arab States Fundemental Education Centre. More than two years were spend in the village of Sirs-el-Layyan in the Province of Menoufia, 70 kms. north of Cairo.

2. The practical mind of the Egyptian peasant woman is shown by her attempts to arrange things conveniently for her work--especially in the cooking area and the yard or stable. While one can hardly speak of furniture in the Egyptian rural house, there are some indications of a desire to have it. Indeed, the richer peasants go to extremes immitating their conception of the ornate furniture of Egyptian city dwellers. And most houses have niches in the thick mud walls (a kind of all purpose closet), a "mastaba" (taking the place of the chair and the bed), a wooden "sandouk" (chest or similar furniture), as well as usually one "tablia" (low, round table providing a serving surface just above the floor), "hassiras" (reed or similar carpets), and an oven-and-common-bed in the winter room. These do not satisfy fundamental needs of hygiene and comfort; and the questions of what furniture would meet the need, what would be the necessary minimum, and how such furniture can be provided locally and economically are quite important.

3. One of the main conditions responsible for the kind of furniture described is the fact that the peasants of Egypt live on the floor. While the practice is ingrained by ages of habituation and probably has some positive features such as body cooling in summer, it is in opposition to whatever we know about sanitation and hygiene, prevention of diseases and needs of cleanliness. It is suggested that the sitting and lying level of Egyptian preasants in their homes should be raised 45 cm. from the floor. This would require an adjustment of the chairs, divans, tables and beds. "Mastabas" covered by mats or pillows could remain as sitting accommodation if only one or two 80 cm. ("normal") tables were placed for easy reach. Furniture such as is described is quite common already among the urban middle classes and rural landowners.

4. For the activities of dressing, undressing, the storage of clothes and of other possessions something more than the traditional "sandouk" will be necessary. Rather, a simple closet should be proper built into one of the interior walls. (Present mud walls are about 50 cm. thick, and European closets are only 55-60 cm. deep.) The present tendency of peasants to build niches in the walls should be encouraged and the practice improved. Enlarging useful spaces and providing shelves, hooks and doors to exclude dust are also suggested.

5. Relating to the different activities performed about the stove and oven, one or two adequate cupboards would mean a great advantage. Wall niches around either the oven or stove or both should be provided. These need be only large enough to keep a few utensils, pots, etc. away from dust and dirt.

Teodorovic, B. Equipment and possessions in the Egyptian rural house --2

6. "This furniture can be considered as a minimum necessary to assure progress in housekeeping, home economics and livability of the Egyptian rural house. If, in addition, better floors replace mud floors, and the house is whitewashed, at least inside, a standard of housing will be achieved approaching that of peasants in more developed countries."

7. Production of most of this furniture could be local, using for materials either bamboo (bouss) or palm leaves stems (geried) or wood. Such materials are said to be already in use for furniture in Upper Egypt. Rural industries of this kind and the skilled local carpenters should be encouraged to adapt their activities to this need; and it is expected that mass production will soon gain a footing in providing this very simple furniture. The first step towards this goal must be education both to show the need for the furniture and to warn against extravagance and blind imitation of "snobbish" furniture styles.

8. Plumbing is seen as a desirable first step in the improvement of housing. But if plumbing cannot be installed (as is sometimes the case), the next best is the hand pump. No great difficulties are expected in providing such pumps in Lower Egypt; and drainage conditions are nearly ideal. The advantage of having a hand pump in the house so that most house work can be performed with running water is apparent. (The age-old daily routine of women and girls, carrying 3-7 times per day the special water jars or "bellas" weighing about 30 kg. full, could finally be abandoned.) Within the house, many labor-saving devices in daily housework would be possible. In terms of sanitation, an indoor hand pump would make it possible to discourage the use of the "zeer," a permanent water container in the house from which water is taken by common cups. The practice of keeping an earthen ware water-cooler (colla) full of water in the toilet is acceptable, provided the possibility of its contact with the "zeer" is removed. The cooler then should be filled with running water. It is also proposed that running water be provided for ablutions directly, rather than using the "colla" in this way.

9. Improvements in local rural stoves follow work in India and elsewhere. The present rural Egyptian stoves have the following disadvantages: difficult to start fire in, produce much smoke at the working level (affecting eyes and lungs), radiates the heat of open flame, dirties pots and pans with soot, consume too much fuel, causes fires and burns. The proposed stove, designed by Mr. Teodorovic, is a progressive development of the traditional stove, modified for the use of draft (a short chimney is added and connected to the fireplace). It has the great advantage of saving fuel, and it is flexible enough to encourage further improvements by the peasants themselves.

10. The oven of the Egyptian rural house serves at least a three-fold purpose: baking bread, etc, warming the room, and providing a sleeping place (on top). Traditionally constructed so that the fire is made from inside the room, smoke fills the whole room and darkens the walls. Although some form of ventilation is practiced, there is little doubt that some smoke and gasses (such as Carbon Dioxide) remain and concentrate--making the room "stuffy" and having a well-known effect on the health of inhabitants. This can be avoided if the room is constructed so that the oven fire is made not inside the room but outside in the light and air of the court. The sleeping and heating functions are to be continued inside in a cleaner, better atmosphere. This technique is known to the peasants, who apply it from time to time in new construction.

11. One special problem which needs to be solved in connection with the oven is the use of dung cakes for baking. Peasant women are firmly convinced that, for baking, a good steady fire can be maintained in no other way than the use of these cakes. If this is true and no alternate fuel available to Egyptian peasants can be substituted, a reconstruction of the oven must be seriously considered. This is said to constitute an intriguing problem to be solved by home economics specialists.

12. The utensils in the Egyptian household are scarce: 1-2 wooden spoons, a vegetable masher (monfrak), a few brass pots and covers, a serving plate (sannia), a tea pot, glasses, wooden mortar and pestle (sallaya), a metal pitcher for washing hands (ibrik). Since the practice is to use fingers for eating, the (ibrik) is a very valuable utensil--provided the washing of hands before meals is recognized as an important hygienic precaution and not just a ritual. Therefore, if the improvisation for running water is not substituted, the continuation of "ibrik" is needed. Other utensils such as a set of iron bars for baking, the gourd (erba) for making butter, the big flat tray (tesht) for washing laundry, need further consideration by specialists. The real field of work of home economists in Egypt is said to be the evaluation of such utensils as different activities of the Egyptian peasant woman. Proper evaluation can be made only after more study and observation has thrown some light on their health, safety, home economics and similar characteristics.

E.N.O.

Toye, L.G.
SUGGESTED DESIGNS FO THREE-ROOMED HOUSES FOR HOT-ARID CLIMATE
Journal of the National Buildings Organisation (India) Vol. II:1-2, 1957.
pp. 63-69. Illustrations.
721.001.22 (540)

1. This is a suggestion of several designs for three-roomed houses in hot-arid climates for the income group of Rs. 200 per month. A separate design for each directional orientation is indicated. Mr. Toye is associated with the National Buildings Organisation, New Delhi, India.

2. Each dwelling unit is comprised of one living room, a bedroom, a multi-purpose room, a kitchen, a bath, a W.C. and a verandah. Total floor space is 796 sq. ft. The houses are designed to suit North, South, East and West orientations in the following ways: The rooms are protected on South and West; the need for cross-ventilation and air movements during the sticky months is kept in view. The two-storey construction is adopted so that occupants of the ground floor may use the court-yard and the occupants of the upper floor can take advantage of the open terrace during hot summer nights. The units are combined to form a block of four dwellings, with the staircase serving two units on the upper floor.

3. East Orientation. Central staircase facilities are provided as a single straight flight to serve the two units on the upper floor. The back passage on the West helps to cut off the sun from the bedrooms and living rooms to some extent. All the rooms, except for the kitchen, are facing East with a common verandah. (6'0" wide) for sitting out. Entry to the ground floor is arranged from the verandah without losing the sitting space. Kitchen and lavatory blocks are grouped together to facilitate drainage. The lavatory block is lighted from an internal open chowk, where the service pipes can be located. Storage space on ground floor under the staircase is an advantage of this type. The sweeper's entry for the first floor for cleaning the lavatory block is arranged so that the rooms and verandah are not disturbed.

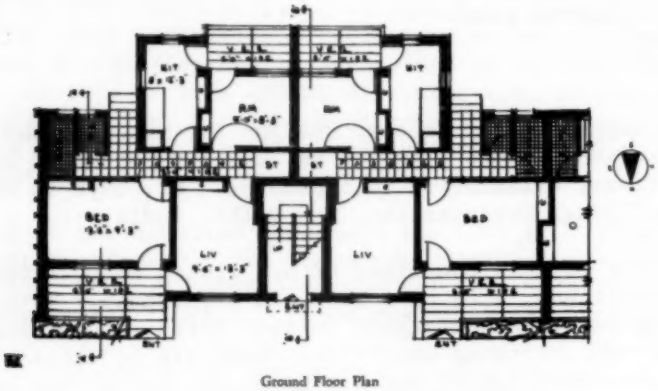
4. West Orientation. The main rooms are planned on the front side with a common verandah (8'0" wide), which will protect the rooms facing south. Entrance to the flat is from the verandah, and the approaches to rooms are independent of any crossing. Kitchen and lavatory blocks for the adjacent units are grouped together and provided at the back. Communication passage (3'0" wide) is also provided at the back. Entry to the upper floor units is from the back passage. And the lavatory blocks are conveniently arranged near the staircase to avoid the need for sweeper to enter the flat.

5. North Orientation. The units are arranged with a central staircase, and bedrooms and living rooms are on the North side. A sitting verandah (6' wide) is common to these two types of rooms. While entry to the ground floor is from the verandah, passage is arranged so that the sitting space is not disturbed. Lavatory blocks for two units are grouped together and are provided at the back (south) side. This is approached by a 3 ft. passage, and an independent sweepers entry is provided near the lavatory block. Kitchen and the third room are planned on the South and are protected by a verandah (5 ft. wide). This verandah can also be used for dining. Storage space near the staircase is an additional advantage for the ground floor unit. The upper floor flat has a private entrance, avoiding view from adjacent units. The walls of bedrooms and the verandah facing East and West are kept to 9 in. thick

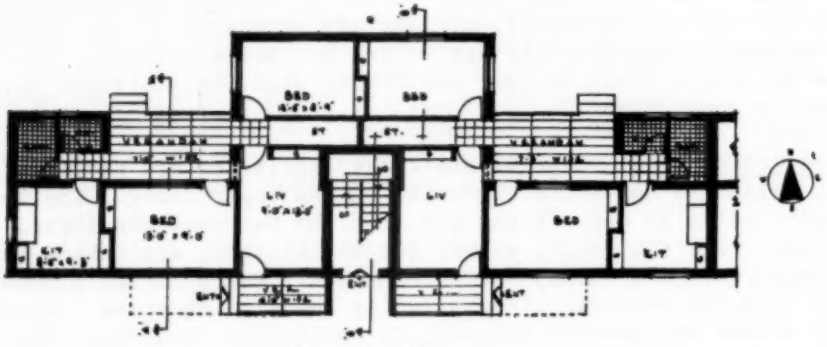
Rs 5 = approx $(US)1.00

Journal of the National Buildings Organisation (India) Vol. II: 1-2, 1957 pp.63-69

"GROUND FLOOR PLAN"



Ground Floor Plan



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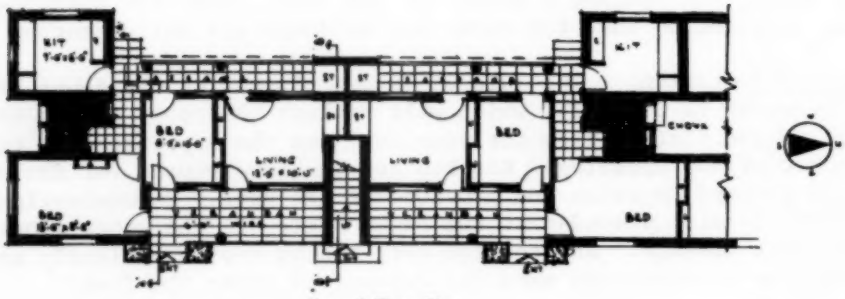

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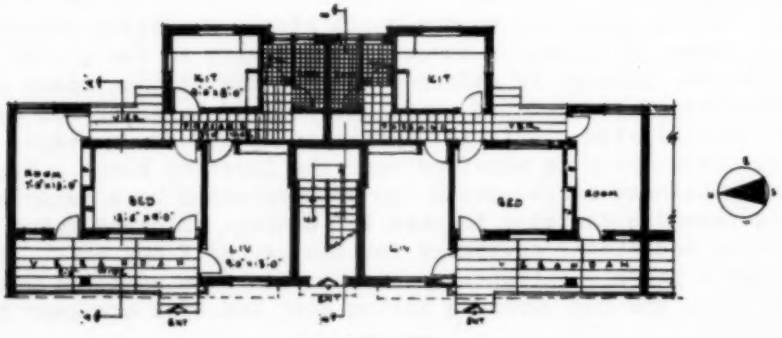
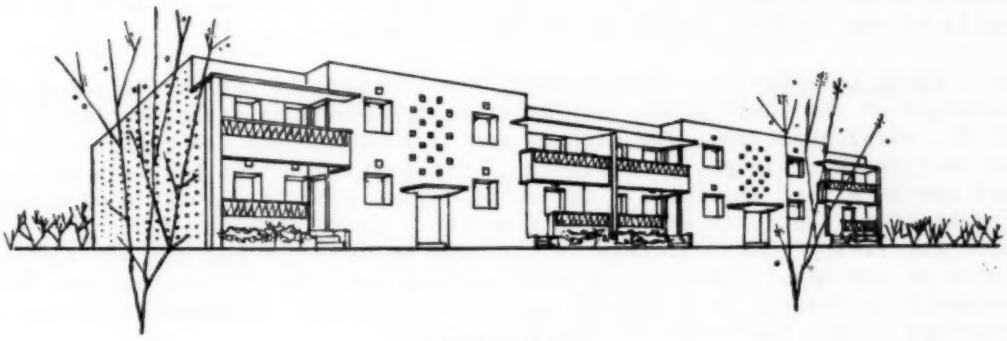
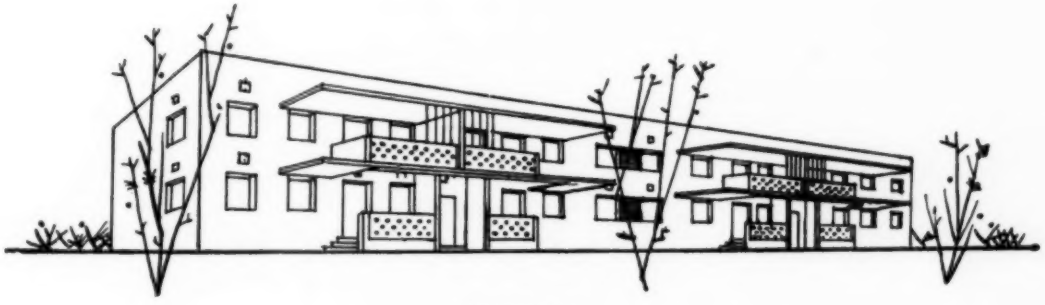


Ground Floor Plan

Journal of the National Buildings Organisation (India) Vol. II:1-2, 1957. pp.63-69



Perspective



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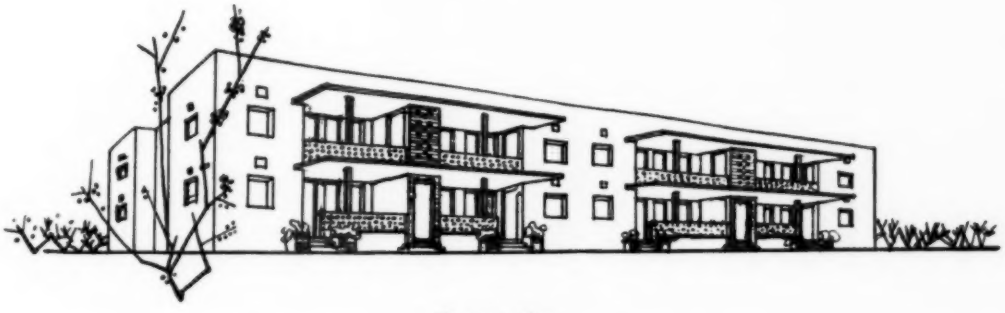


Perspective

Perspective

plus a brick projection of 4.5 in. at a reasonable distance to form sun breakers. Walls of the lavatory block and of the kitchen face South.

6. South Orientation. The kitchen, the bedroom and the living rooms are arranged on the south side. Living rooms and bedrooms are protected by a small (4 ft. wide) verandah. The kitchen and lavatory blocks are grouped together to facilitate drainage. A verandah (7 ft. 6 in. wide) is provided at the North and serves all of the rooms. The multipurpose room is planned at the North (back) side. Entry to the ground floor unit is through the front verandah and into the living room. Storage is provided between the bed and the living rooms. Entry to the upper floor is the near passage into the living room and the front verandah is treated as a balcony on the first floor. Built-in cupboards are provided in all the rooms of this house.

PLANNING

C.D.G.I.O.

Albano, M. Josephina R.
El Factor Humano en Los Programas de Rehabilitacion de Tugurios
(THE HUMAN FACTOR IN SLUM REHABILITATION PROGRAMS)
Centro Interamericano de Vivienda y Planeamiento, Bogotá, Colombia, 1957
21 pages, illustrations. (Text in spanish)
711.164 (8)

1. This publication was originally prepared for presentation at the First Inter-American Technical Meeting on Housing and Planning, held in Bogotá during 1956. It was printed in its present booklet form in 1957 by the Inter-American Housing and Planning Center or CINVA. M. Josephina R. Albano is head of the social work section of the Pan-American Union and Professor of Social Service at CINVA. Her qualifications to prepare this compact synthesis and summary of the subject's fundamentals makes this document worth considering in any program of slum rehabilitation.

2. The objective and the scope of the booklet is the discussion of the principle that the family is the object of importance in any program of rehabilitation and that the human factor is therefore the major consideration. Aspects of construction and related subjects are not discussed--in order to concentrate more clearly on the human and social aspects of the problem. It is also indicated that a slum rehabilitation program, to be successful, must be complemented by an educational program which has two objectives:

a. A change of living habits in the population, and

b. An integration of the population into the community, as a productive and vital force in the society as a whole.

While the principles and standards set forth in the booklet are applicable to any type of public housing project, slum rehabilitation was chosen because it is the most serious and typical problem of Latin American urban centers.

3. The reasons for the emergence of slums and shanty-towns are discussed. The fact that these problems are closely related to a nation's economic development is brought out. During the past 20 years in Latin America there has been observed the appearance and growth of slums in the urban centers, coinciding with the acceleration of the industrialization process. In some areas the economic change has provoked major changes in the social structure. A typical case involves the construction of a factory in a clearly rural area. Through the migration of the rural people to cluster around the factory, the area is transformed. Usually such regions find themselves almost completely lacking in facilities to face suddenly the large numbers of migrants. Another aspect of industrialization was the mechanization of agriculture, which created a major surplus of labor in rural area. The rural people come to the cities to look for work, but they are generally untrained to work in factories, commerce or public services. And, as they have to accept a low wage while initiating themselves to the new jobs, a significant increase in the number of people who are economically feeble in the society comes about. And the slums grow.

4. It is felt that many rehabilitation programs have failed because they have overlooked the human factor and concentrated only on the material aspects. In many cases, the end result has been simply to change a horizontal-type slum for a vertical or "skyscraper" type.

Albano, M. Josephina R. El factor humano en los programas de rehabilitacion -2

5. It is said that any rehabilitation program should have four phases:

a. Preparatory: The preparatory stage would envisage a social-economic study of the area. It would be a study of the slum about to be eliminated, and of the community where the project is to be constructed. A survey of families involved and of available services would be made.

b. Planning: Once the preparatory study has been completed, the planning phase should be given careful consideration in order to determine what type of rehabilitation program is the most adequate: whether to eliminate the slum completely; improve the housing and general slum conditions; or, undertake programs of urban renewal in order to keep a zone from becoming a blighted area.

c. Implementation: The implementation phase deals with the selection of tenants; administration and maintenance; education and community development. Since the number of houses built is usually less than the number of needy families, a careful selection program is necessary. Points to be considered are:

(1) Family size and make-up

(2) Family income and expenses

(3) Inadequate lodgings or family scattering

(4) Present conditions and up-keep of the dwelling

(5) Work location.

The existence of a Social Service Office in any public housing program for low-income families, is essential. Working in close cooperation with the Administrator of the housing project, the social worker will help to plan, orient and implement educational and community development programs, based on objectives for individual self-improvement, a healthy community life, and adequate community services. Such a program should include orientation services and training for new tenants, schools and special courses, common interest groups, clubs, committees and social center. Special and detailed attention is dedicated to the development and importance of community organization and the ways it can be carried out effectively.

d. Evaluation: Many low-cost housing projects are being or have been constructed in Latin America - some, carefully planned to meet family needs, other not quite so scientifically. A thorough analysis and technical evaluation of the results of these projects should be carried out regularly and systematically. Besides affording a necessary appraisal of the particular project, the results would be especially useful for future housing projects. This is another field where a Social Service Program can play an important role because of its intimate knowledge and closeness to the problems and needs of the neighborhood groups.

D.O.P.U.

Leduc, Gaston
"SOCIAL CREDIT SOCIETIES": A FRENCH EXPERIMENT IN AFRICA
International Labour Review, 77:1 (January, 1958) pp. 1-18.
332.7 (6)

1. This article describes the origin, functioning, trends, successes and difficulties of the credit institutions set up to give impetus to economic development in French tropical Africa. Since these "social credit societies" date back to a French Act of 30 April 1946, a certain amount of evaluation is found possible. Gaston Leduc is Professor of Economics and Development of Overseas Territories, Faculty of Law, Paris University.

2. As set up by the 1946 Act, the Central Fund for Overseas France (C.C.F.O.M.) is responsible for implementing this comprehensive plan of investment and general credit schemes in French tropical Africa. This fund administers the Overseas Territories Economic and Social Development investment Fund (F.I.D.E.S.) but has separate resources to supplement the work of the latter. These activities are essentially to promote consciously the making of credit facilities available to "social" categories which, for various reasons, are thought to merit special treatment. Areas affected by this program are: French West Africa (eight territories), French Equatorial Africa (four territories), as well as later additions of the Autonomous Republic of Togo and the trustee-ship territory of the Cameroons.

3. All of the territories of French West Africa with the exception of Mauritanie have taken advantage of the opportunity to set up credit facilities. In French Equatorial Africa a single social credit society has been set up for the four territories of Middle Congo, Gaboon, Ubangi and Chad; but it is expected that later developments will bring a separate society for each territory. The legal status of these credit societies is that of state companies, except for the Benin Bank of Dahomey; and this gives rise to certain legal awkwardnesses. Under loose construction of the Act, these state companies could probably become joint state-private companies if local private capital becomes available. Grants are fairly small and are used for risky ventures of borrowers thought to merit special treatment.

4. The operations of the social credit societies, as defined in their article of association, are concerned with making cash loans or loan guarantees covering five categories:

a. Short or medium term credit to officially approved cooperatives and agricultural associations.

b. Short or medium term credit to small or medium sized farm holdings

c. Short or medium term credits to handicraft undertaking.

d. Loans to individuals to encourage the acquisition of small properties or the building of dwelling houses.

e. (a later extension of) Credit for a wide range of durable consumer goods lumped together as 'minor household equipment.' The first three categories are to encourage production and the latter two to encourage consumption.

Leduc, Gaston. "Social credit societies": A French experiment in Africa -2

5. The evaluation of results and the difficulties of obtaining adequate security on loans makes a critical examination of the program. In French West Africa the largest amount of these credit funds went to Africans, but the reverse has been true in French Equatorial Africa and Madagascar. Throughout, however, there has been an increase over time in the percentage of credits extended to Africans. But with this tendency, it has become apparent that real problems exist in the extension of credit to significant parts of the African population.

a. In agriculture, it became clear that many African peasants are not yet farmers as the term is understood in more advanced countries. Where coffee and cocoa plantations provide stability, the problem of security for loans is not so bad. But the vagueness of systems of land tenure based on customs often difficult to interpret are encountered. The mortgage system as practiced in France proper is not too realistic here, but attempts have been made to have a strict enforcement of French agricultural warrants. This usually results in the creditor institution taking over the property to try developing it on its own account. Experience indicates that flexible approaches may be more suited to the present-day African mentality and legal institutions. Requiring joint security from the meaningful extended-family or other group, for example, has proved successful in the Cameroons. In Madagascar there have been apparently successful attempts to develop African peasantry, yet maintain the traditional patterns of social organisation. Some success has been seen in attempts to tie the co-operative movement in marketing and supply to the provision of credit. In the extreme rural areas of Africa, the only present mechanism for credit is that of the traditional provident societies--and these are now out of favor with rural opinion.

b. The handicraft trades have been the most disappointing area of the social credit societies' work. Unpaid debts are the highest proportion here, and the problem of real security in these trades is nearly insoluble. The successful instances have been the loans to certain mutual associations (fishermen, joiners and makers of artistic goods). A great deal more awarness is needed on the part of the African merchant to have some idea of responsibility and acceptance of risks inherent in a market economy. "It is a well known fact that lack of business enterprise is one of the major stumbling-blocks in underdeveloped economies."

c. Consumer loans have met with considerable success in French Tropical Africa. A great deal is yet to be accomplished in all-weather housing, however. So far there has been a concentration on housing in the cities and the suburbs, and there has been no relation between the responsibilities and activities of housing societies and those of the social credit societies. But recently in French Equatorial Africa an agreement has been signed between these two agencies establishing a permanent arrangement whereby the housing society is recognized by the credit society as the contractor responsible for actually carrying out any building financed by individual loans. Great difficulties have been found in reconciling the high cost of building in French tropical Africa with the relatively low level of incomes in the groups the social credit schemes were intended to benefit. So far the public employees have most benefited by the housing scheme, and they are among the best off in the labor force. Instability, inadequate housing and lack of financial assistance are said to form a vicious circle. The giving of loans for the building materials directly is one innovation of promise, and similar schemes are being tried to facilitate the laying-on of water and electricity. And finally the social credit societies are now making an effort to move beyond the cities -- to the upland villages. This is done chiefly through the financing of materials, with security being supplied by provident or co-operative societies.

D.O.

Sekler, Eduard
VIENNA OPERA UNDERPASS: A Comment.
Graduate School of Design, Harvard University.
69.03.4 (436)

1. Professor Sekler has been kind enough to prepare this comment specially for this number of EKISTICS. Since he is a native of Vienna and returns there at least twice a year, we were very pleased to have his views. As Associate Professor of Architecture at Harvard Graduate School of Design, Dr. Sekler teaches several courses relating to urban design.

2. "With the rapid increase of vehicular traffic during the past few years, the 'Opernkreuzung' in front of the Vienna Opera House turned into one of the most congested spots in Vienna's traffic network. Here a main artery, the 'Kaerntnerstrasse' entering the city proper (the first district) intersects the 'Ringstrasse' which carries a great load of traffic around the city. One of the greatest impediments to a smooth flow of traffic at this intersection was continuous interference between pedestrian and vehicular traffic. Accordingly an underpass had been constructed for pedestrians and they are no longer permitted to cross the junction at street level.

3. In order to facilitate their use of the underpass it has been designed with escalators at all approaches and with attractive shops, toilet-facilities, and a coffee-bar in the center. Eventually this pedestrian area under the 'Opernkreuzung' may be linked with a station of the rapid underground transport which is envisaged. At present it only serves as a pedestrian underpass and refuge but already it has become a favourite meeting place which is crowded during most hours of the day. People have gotten used to it quickly and like the chance if gives them to take a conveniant shortcut diagonally across from one corner of the crossing to another. There have been very few accidents with the escalators."

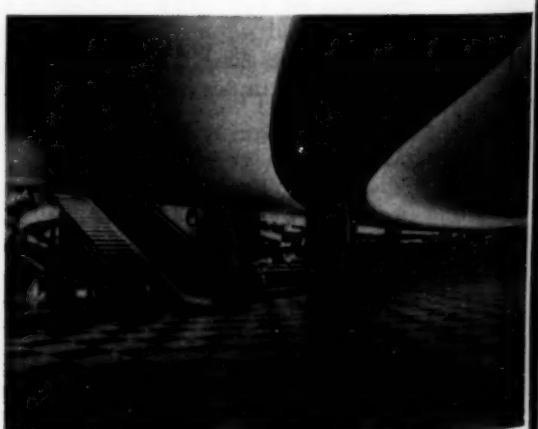
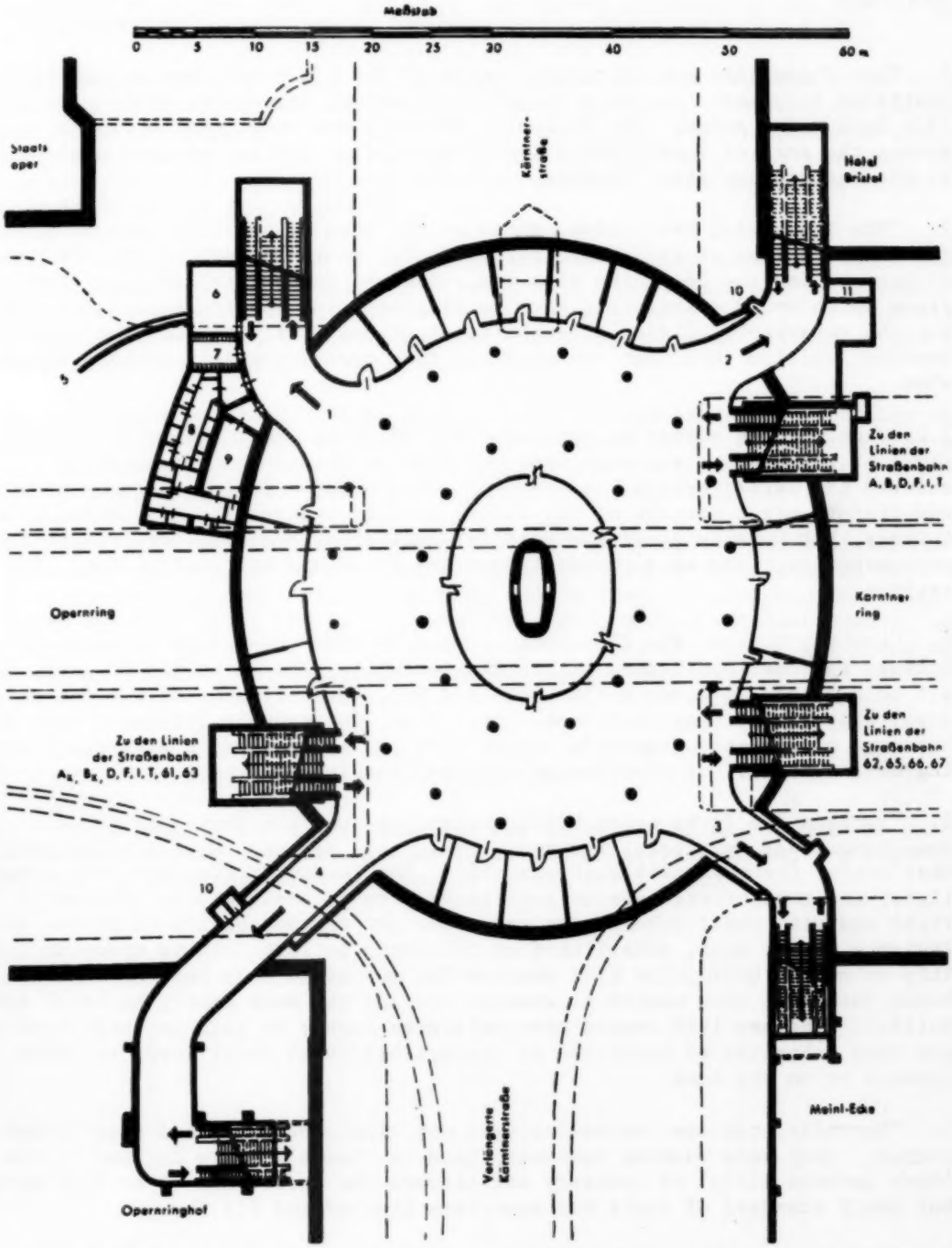


Abb. 22. «Durchgang Opernpassage, Wien.» Bauherr: Stadtgemeinde Wien. Entwurf: Arch. Adolf Hoch. Photo: Otto Bayer, Wien; zur Verfügung gestellt von der Fa. Uhlich, Graz.

PLAN

DIE OPERNPASSAGE IN WIEN

Schweizerische Vereinigung fur Landesplanung (Swiss Town and Country Planning Association) November/December 1957. p. 199.


Maßstab
0 5 10 15 20 25 30 40 50 60 m
Staats oper
Kärntner-straße
Hotel Bristol
Zu den Linien der Straßenbahn A, B, D, F, I, T
Operaring
Kärntner ring
Zu den Linien der Straßenbahn A2, B2, D, F, I, T, 61, 63
Zu den Linien der Straßenbahn 62, 65, 66, 67
Verlängerte Kärntnerstraße
Meinl-Ecke
Operaringhof

Opernpassage in Wien. 1 = Zur Oper; 2 = Zur Kärntnerstraße; 3 = Zur verlängerten Kärntnerstraße; 4 = Zur verlängerten Kärntnerstraße; 5 = Einmündung des Frischluftkanals; 6 = Warmluft-Tauschraum; 7 = Colonia-Raum; 8 = Damen-WC; 9 = Herren-WC; 10 = Telephon; 11 = AKKU-Raum

Passage de l'Opéra à Vienne. 1 : vers l'Opéra ; 2 : vers la Kärntnerstrasse ; 3 : vers la Kärntnerstrasse prolongée ; 4 : de même ; 5 : orifice de la gaine d'air frais ; 6 : Echangeur d'air chaud ; 7 : déchets ; 8 : W.C. dames ; 9 : W.C. hommes ; 10 : téléphone ; 11 : salle des accumulateurs

A.K.Q.W.

Taylor, M. Foster
POLITICAL THEORY AND LAND OWNERSHIP
The Journal of the B. Sc. (Estate Management) Club. Vol 1: 5, Nov. 1957.
pp. 89-92.
333 (410)

1. This discussion was originally prepared for the Royal Institution of Chartered Surveyors in a much longer form and won Honourable Mention for the 1956 Gold Medal Award. The following extracts are taken from a précis to indicate the sort of impact which industrialization has had on land ownership in one Western society - England. -

2. "The Industrial Revolution, which at the turn of the 18th century produced the market system of an industrialised State, marks the end of the old order of Society and the beginning of a new. Several fundamental changes then took place which would justify the term revolution being applied to this period, but the remarkable balance, flexibility and sensitivity of the English political instinct enabled this vast upheaval to take place virtually without bloodshed.

3. "What was the effect on landownership of these great changes? When the needs of the new Society required that land be treated as a commodity, it entered the market system...so that the then under-priviledged industrialists and traders might partake of the fruits so long reserved to the landed aristocracy, but however great the national genius for adapting ideas to changing circumstances, land as a physical fact has fixed and certain physical limitations.

4. "Looking back at the 19th century we must view the result of this clash between the need and nature with mixed feelings. The marketing of land, for all to come and buy, was a fine idea and individual freedom of use was a fine idea, what was it then that went wrong; what, for example, produced that debasement of artistic standards, which mars the splendour of a virile and growing nation so full of confidence in itself and in its future?

5. "Perhaps the first point which occurs, is that the desire to possess something owned by others, whatever the ethical reasons, does not form the best motive for responsible stewardship. The landed aristocracy were monopolists, and monopolists have no need to be greedy; their wealth came as of right and with their inheritance came also the responsibility of direct allegiance to the king, established at Salisbury in 1086. It is wrong to ignore this or merely to point to rank abuses; for we should also bear in mind the human fact that when wealth is assured one can the more easily be loyal and dutiful. The new land owners were motivated purely by gain in their land use and they inherited no tradition of responsibility to their lord, to their tenants or to the land.

6. "Secondly, the new landowners were not highly educated and they lacked status. They were working immensely hard to create the new England in the 'dark satanic mills' of industry and through the operations of an open market, but their standard of taste was sometimes limited and ill formed.

7. "Thirdly, there was no realisation, (is there even today?) that the measure of the value of freedom is the degree of responsibility accepted in making a choice. Freedom without responsibility results in anarchy. In this sense freedom is a form of power and Lord Acton's dictum on power may be applied to freedom also.

Taylor, M. Foster. Political theory and land ownership. -2

8. "Fourthly, land, although it was now treated as a commodity, still remained the great pre-requisite to life itself, immovable, relatively indestructible and, because of its limited quantity, ultimately inimical to the laws of supply and demand.

9. "Towards the end of the 19th century public concern with the evils arising from the decay of landed responsibility made itself felt through the parliament and the State began to exert an influence to require that responsible action, which was lacking in the new ownership, and to this day it has continued to be concerned to build up a code of behaviour which is to be imposed upon the operations of the free market.

10. "The events which led to the Industrial Revolution have been described as a trend from a basis of status to a basis of contract in human relationships. Today the free contractual relationships are developing into State regulated codes. The recognition by the State of the ethical 'ought' is one of the most significant development of the 20th century.

11. "On the other hand, although the State, through the monarchy, claims the right of final ownership in land, practical ownership has always remained with the individual and it is conjectural whether the State could retain the altruistic approach if it indefinitely extended its own interests.

12. "Before wise steps can be taken towards modifying the basis of landownership, whether by planning or other legislation, deeper consideration must be given to the problem of value. The two main streams of thought, the utility theory and the labour theory, have recently been developed considerably, and philosophy is now paying much attention to the subject. These questions cannot be deferred. Large increases in productivity are resulting in that coalescence known as collectivism, either in public or in private form. Philosophy,... follows events, but the closer it follows-up, the better, for legislation ought to derive from principle, and not from panic or perplexity, but to legislate from the wrong premisses is equally dangerous.

13. "Something of the right principle was expressed by Keynes when he said 'moderate planning will be safe enough if those carrying it out are rightly oriented in their own minds and hearts to the moral issue.'"

C.I.J.O.

CRITIQUE OF BRAZILIA
Advanced Seminar at Graduate School of Design, Harvard University. March 5. 1958.
711.432 (81)

1. An advanced seminar on the human scale in urban design is conducted at the Graduate School of Design in Harvard by Dr. S. Giedion with other members of the Faculty and Dean J.L. Sert. During January and February systematic analyses have been made of certain recent town planning projects, including Lucio Costa's prize winning plan for the new capital city of Brazil - Brazilia. After at least two sessions spent on discussions of the workings of the plan, the floor was thrown open for personal comments and criticism. Some of the criticisms are listed here.

2. It was said that to plan a new city is more hazardous than to gamble on the stock exchange. The world has many monumental new cities which failed to develop - Versailles is only the best known example. Today we are plunged into a very difficult position. Suddenly we are forced to realize many large scale enterprizes - like the complete renewal of old cities and the creation of new capitals - without the background of an urban tradition, which was lost a century and a half ago. This means we are obliged to start again from scratch and we are certain to fall into the dangers of inexperience.

3. As the plan of Brazilia and a full description of it were included in the March Ekistics it is enough to say here that this is a project for a new and magnificent capital city for Brazil of about half a million inhabitants sited in virgin territory and approached, as yet, only by air. The site is roughly triangular with rivers on two sides which converge to form a large lake. The city is formed as a cross: one axis containing all the civic buildings, the other being bordered by residential units.

4. Criticism was channelled under the headings of Residential Areas: Traffic: Monumentality.

a. Residential Areas

The $\frac{1}{4}$ mile square blocks are too limited in size to develop local life.

Each is a repetition of the other and the regulation of building heights will make for great monotony.

The plan is dominated by the automobile scale: one is forced to use the car every time one moves.

The population is made to seem insignificant - they are the servants of the government.

Living in this town would be like coming out of the subway at 132nd Street New York. There is no means of orientation, one place is just like another.

The present trend is to move towards residential units which are large neough to emcompass variety and have some like of their own: this probably means units of upwards of 15,000 people instead of units of 5,000.

b. Traffic

The pivotal point of this plan is its first conception - to draw a cross. The crossing point marks the coffin nail of the scheme.

Critique of Brazilia -2

Every single office worker as well as every one seeking entertainment must use the same central intersection.

A member of the seminar calculated that the main artery would need 24 lanes of traffic to deal with daily movement from residential units to the government offices.

A city of 500,000 with one street is inconceivable. Differentiation of streets and division of the flow of traffic is essential.

In Brazilia means for satisfying human needs are vastly separated. The town square is at one end of the cross axis - at almost maximum distance from the residential units. The cathedral and centers of recreation and culture are connected with the government buildings at the other end of the axis from the town square.

c. Monumentality

Behind this project stands the Baroque city plan but it is being put forward at a time when we no longer posess the heirarchial certainly of that period.

It has a tremendously monumental basis but this is diminished in every detailed plan: sign of an inner uncertainty. The Baroque axis stands there but the major building elements which should have dominating positions are cast aside.

Paris is a city of five million, not five hundred thousand, yet even they are not enough to prevent the Champs Elysées from having an air of emptiness except on festive occasions. The axis of Brazilia is twice the length from the Louvre to the Arc de Triomphe. Brazilia is an over large skeleton with not enough flesh upon its bones.

The decadence of open spaces came about the nineteenth century when they started to grow beyond the grasp of the human eye.

All buildings on the monumental axis must be completed at one throw for anything to be achieved. There is no possibility of gradual growth.

There is also no possibility of adaptation to unforeseen changes the plan is rigid and we live in a period which demands flexibility.

Things of least importance are given over prominence: the center of everything is a traffic junction and upon it - the center of the whole city - is a radio-television tower. "I would feel as though Big Brother were always watching me."

Brazilia is an example of misunderstood monumentality. It is a diagram blown up to monstrous dimensions. It remains a two dimensional plan hovering over the ground like the foreboding shadow of an immense airplane.

A.C.I.O.

Violich, Francis
STATUS OF PLANNING IN SOUTH AMERICA
Journal of the American Institute of Planners, 23: 3, Spring 1958. pp. 112-118. Illustrations.
711 (8)

1. This is a view of planning activity in South America from two perspectives. First as one who had known the promise of activity in the area fifteen years earlier and second as a planner in the USA who has seen the field of planning clarified in several ways during the same period, Violich makes comparisons on various subject. Introducing the subject:

> "...while the earlier visit fifteen years ago in Latin America demonstrated promising and active interest in the urban planning field, the most significant conclusion of the 1956 study is that nowhere near that degree of development of urban planning as a specialty has taken place. No clear cut planning profession has developed, nor is there any but the most limited knowledge of the developments described... in the U.S. American city planning concepts, techniques, professional activities and training programs are known and understood to only a small number of persons."

2. Major Urbanization Trends. With the clear exception of Colombia and to some degree of Venezuela and Brazil, the tendency toward unbalanced overconcentration in single large cities has continued. These major cities grow much faster than the second largest city, and this is evidenced in Peru (Lima vs. Arequipa), Chile (Santiago vs. Valparaiso), Argentina (Buenos Aires vs. Rosario and Cordoba) and Brazil (Sao Paulo and Rio vs. all other cities). A great many factors have contributed to the balanced growth of Colombia. And the overconcentration of the capital of Venezuala has only recently been offset by major growth in the smaller cities.

3. Major Urban Problems. Inadequately distributed economic development, rural problems and insufficient transportation systems are seen as the roots of the basic trend toward single large cities and resulting problems of physical development in urban centers. Rapid growth and overconcentration of population have thus contributed to a pattern of centralization--the reverse of the suburban and decentralization in the U.S. In Latin America:

> "Generally the downtown cores of the bigger urban areas are intensifying themselves with new building at ever-increasing rates of land coverage, height and population density. ...Transportation systems strained to the breaking point support this kind of urban pattern, which while productive of exciting downtown areas full of human life at all hours, is basically a highly inefficient and unsatisfactory one in terms of the people who must use them for work, shopping, cultural and especially residential purposes."

Densities are increasing sharply. In Sao Paulo buildings of 22 stories on 10,000 sq ft. lots bring densities to 800 per acre; 32 story "bloques" in Belo Horizonte will go up to 1,600 people per acre; and the projected redevelopment of Buenos Aires projects 1,200 persons per acre. The new problem of squatter housing has only recently become clear in favela multiplication; and it is still new in cities like Lima or Santiago--though about 100,000 persons live this way in each.

Violich, Francis. Status of planning in South America. -2

4. Organization for Urban Planning. Though the problems result from economic and social causes, it is a lack of knowledge of practical and consistent technique for coordination of urban growth according to long range policies which aggravates the problem. In a situation of a scarcity of resources it becomes all the more important to have good organization for planning. But there has been little progress in this regard during the past 15 years. Only four of the ten countries on the South American continent have national programs dealing with urban planning. They are Venezuela, Ecuador, Peru and Chile; but even in the best of these local initiative and responsibility needs waking up. Most South American cities have some sort of local planning program (usually tied to the municipal engineering office), but local government itself is not equipped to handle the broad problems of planning. Complicating this is the further division into special jurisdictions. Often too the pay is very low for planning, and the planner has to spend at least half time working on private architectural or engineering work. Then too there is a lacking of clear definition of the planning function in typical legislation.

5. Urban General Plans. Such plans exist in one form or another in the principle cities visited, but in some cases they were prepared many years ago with no recent revision or they covered only fragments of the basic parts of the city plan. Some were really collections of site development plans for needed civic improvements like circulation routes or public building groups. While these are of some limited value, they fail to go far enough in setting long-range objectives and guides for growth at the actual fast pace. But in some large cities (Bogotá, Caracas, Arequipa, Santiago, Buenos Aires, Montevideo, etc.) directions in the thinking of planners are encouraging. The problems are coming to be seen more clearly - including that of basic data and the domination of planning by architects and engineers.

6. Affectuation of Urban General Plans. There has been a failure to differentiate between the plan and its effectuation by legal and financial techniques. Zoning and subdivision controls are inadequate in relation to the problems encountered. Building codes also need modernization. Skyrocketing land values and over-intensified land utilization are seen as the two most unfortunate results of the lack or urban controls. In Sao Paulo, for example, enough land has been sub-divided for a total population of 10 million, and much of it is unrelated to actual housing needs. Redevelopment is going on without regard for the ultimate degree of congestion, relation to other uses and to public services--"in short, to the ultimate form and pattern which is, in essence, the purpose of the city planning process."

7. Urban Design. Lack of widespread progress was found to be surprisingly inconsistent with both colonial and 19th century planning in Latin America. Rapid growth is pushing aside tradition and sensitive planning. In twenty cities examined, there were few good examples--insufficient to indicate a trend toward effective ways for integrating large scale design into the total urban scene. The best examples were found in low or middle income housing in Caracas, Lima, and Rio, university campus planning; and in private multi-family residential groups and shipping centers in Caracas. Public Buildings, more often than not, were not interrelated as to location except according to some older civic design concepts. Many competent urban designers are frustrated by inability to get even brilliant designs off of paper and into reality because of a lack of physical and of municipal, legal and administrative policy framework.

Violich, Francis. Status of planning in South America -3

8. The Future? From attending the Inter-American Municipal Conference, the First Inter-American Technical Conference on Housing and Planning, and from the tour itself, Violich believes that "the time is ripe now in Latin America for a new surge ahead in the evolution of the field of urban planning." But this will not come of itself nor without considerable effort. One necessity will be the development of a planning profession as such. Another will be the wide scale international cooperation in planning.

G.N.S.T.

Myles, G.T.
SOIL-CEMENT STABILIZED ROADS IN BRUNEI, BORNEO
Road Research (Overseas Bulletin No. 7) Great Britain, Department of Scientific and Industrial Research, Road Research Laboratory, 1957. 36 pages Illustrations.
625.8 (91)

1. A description of three years' work in Brunei, using soil-cement in the construction of new main roads is provided. Mr. Myles is the State Engineer in Brunei.

2. The State of Brunei is a tiny British protectorate between the colonies of Sarawak and North Borneo, and is located on the north west coast of the Island of Borneo. Demand for public works, including major roads, come largely from the discovery of oil in the 1930's and the rapid exploitation of this resource after the war. Though the State has a total length of less than 100 miles and an average width of 30 miles, a programme of road construction envisions some 280 miles of roadway at a total cost of about £8,000,000.

3. Local conditions are governed by a climate which is typically humid and tropical: average rainfall is 120 inches, shade temperature varies between 70°F, and 95°F, and relative humidity averages 80%. There is no frost but night rains and daytime drying imposes some wearing conditions on roads. Terrain is mainly swampy with variable base and depth, but there are some hills in parts.

4. Roadmaking materials have traditionally been coral, sandstone block, and sandstone cobbles. The conventional method of applying these materials was unsuitable for heavy traffic from the oilfields, but the materials themselves were found to form an excellent water-bound macadam which was used extensively in the road-building programme. Rough experiments by the State Engineer indicated that Brunei soils with sand contents of more that 50% were amenable to stabilization with cement. (More elaborate laboratory and field tests were carried out later.) The problem of variation of soils (sometimes three types along a 10 ft. test line) was overcome here because of the necessity in the area to raise the roadbed at least three feet above the surrounding terrain--because of intense and copious rainfall in generally swampy land with a high water table. "All that was necessary was that the top layer of filling, for a depth of at least 8 in. was suitable for stabilization with cement; this meant in effect that one hill of suitable material would be used for the construction of perhaps 8 miles of road..."

5. The procedure followed in stabilizing the earth in the roadbed was to rip the surface; regrade to even surface; spread cement dry (usually 8%-10%) and mix it dry throughout the broken surface to uniformity of color and texture; grade to approximately correct shape; compact to maximum, assuring that top two inches are not drying too fast; apply curing coat of bitumen emulsion, and keep closed to traffic for seven days. A wearing surface of sandstone cobles is compacted with fines for a compact waterbound surface, and this is sealed after a two week trial period in which normal traffic will indicate any weaknesses. After about four months of observation for faults, a final 2-in. layer of granite premixed with bitumen is applied.

Myles, G.T. Soil-cement stabilized roads in Brunei, Borneo -2

6. In commenting on the quality of such roads, it is said that:

> "Experience shows that roads constructed in this manner are capable of carrying oilfield traffic of an intensity not normally allowed on highways in civilized countries; total loads of 50 tons with axle loads of 22 tons are not uncommon."

Other general conclusions are as follows:

a. "Although soil-cement stabilization may in the past have been regarded as a substitute for a crushed-stone basecourse, and suitable only for lightly trafficked roads, experience in Brunei indicates that it might well be regarded as a roadmaking material in its own right, capable of withstanding the heaviest loadings. It also may be one of the most satisfactory basecourse materials for construction over swamp.

b. "The cost is more than was a first expected, but in the circumstances obtaining in Brunei it probably shows a saving of about 30 per cent over construction in macadam basecourse, and a rate of progress of 1.5 miles per month compared with approximately $\frac{1}{2}$ mile by the latter.

c. "Failures which have shown up have rarely been traced to faulty design but to faulty construction, usually inadequate mixing, or inadequate compaction, the latter often being due to compaction being carried out at the incorrect moisture content. Failures generally have been much less than expected.

d. "For those considering soil-cement stabilization in a smaller way the scale of equipment for soils laboratory and stabilizing could be much more modest than that used in Brunei. Use of rubber-tyred mixing machines, such as the trailing rotavator or Seaman's plant is recommended as obviating the necessity for expensive transporters."

7. In the foreword to the bulletin by Dr. W.H. Glanville, the Director of Road Research, it is pointed out that while 8% to 10% cement was used here:

> "Laboratory experiments suggest...that in the warmer climates of the tropics less cement may be needed, the quantity required decreasing roughly in proportion to the increase of stones in the soil. Cement contents of the order of 3 per cent are probably the lowest that can be employed in the field, for example with well-graded gravel. It may be necessary, however, to increase this figure (e.g. to 4 per cent with gravels), if rather poor mixing is anticipated."

Dr. Glanville also suggests that the 'dry' mixing in Brunei, with its 120 in. rainfall is only relative. In dry climates where the soil has a very low natural moisture content, some water must be added or the cement will segregate towards the bottom of the mixed layer. On the matter of the wearing course of crushed sandstone 1.5 to 3 inches thick, it is said that this is necessary only in extreme conditions. Usually a prime and double surface dressing, followed sometime later by a bituminous surfacing, is sufficient.

GENERAL

M.N.

Aslakson, Carl I.
THE NEW MAPPING METHODS
The Australian Surveyor, 16: 6, June, 1957. pp. 350-354.
526.9 (100)

1. Originally presented as an address to a group of surveyors in Sydney, Australia last April, this paper describes very clearly the development of electronic distance measuring equipment and methods. Captain Aslakson (U.S.C. and G.S., Retired) is associated with World Wide Aerial Surveys in Australia.

2. "There have been only two revolutionary changes in surveying and mapping methods. Both changes are fairly recent. The first was the development of photogrammetry and photogrammatic equipment. The second, scarcely a decade old, is the development of electronic distance measuring equipment and methods."

3. The principles of expressing distance in terms of time and velocity are not new; for throughout the centuries we have spoken of distances as the time it took a man, a horse, or a camel (and today an airplane) to travel. However, it was found simpler to use some length standard and to determine distances directly in terms of that standard because distance measuring by time and speed involved the accurate measurement of the two quantities: speed and time.

4. But now both of these problems can be resolved. "First, the development of accurate timing crystals solved our precise clock problem. Second, ever since Michelson first measured the standard meter bar in terms of light waves, we have recognized that our fundamental and invariable length units must be based on the velocity of light in vacuuo."

5. Wartime activity gave rise to radar, and it was but a short step from this device to the development of bombing systems involving positioning over targets by measuring the distances from two or more ground stations at known geographic positions. And, with the end of the war, the geodesists naturally sought methods of using this new tool in geodetic surveying.

6. Capt. Aslakson worked on the "shoran" bombing instrument system with the United States Air Force. In describing the method he says:

> "The principle in shoran is simple. Pulses or bursts of energy are transmitted at intervals such that they are a mile apart. That is, each pulse has travelled a mile or distance before the next one is sent out. Inasmuch as the distances being measured are seldom exactly an integral number of miles from each other, it is necessary to measure fractional parts of the time intervals. This is accomplished by having a phase shifting device mounted on a shaft in such a manner that by rotating the shaft the phase of the transmittal signal can be exactly matched with the returning signal on an oscilloscope. This goniometer shaft has a dial calibrated in fractions of a mile so that the rotational movement of the dial represents distance. The shaft is also mechanically geared to counters so that distance can be read and in fact photographically recorded in hundreds, tens, units and fractions of a mile to the nearest .0005 mile or to the nearest 2.5 feet."

This method entails tremendous design problems for the electronics engineer in attaining the desired precision. Also for the surveyor or mapper there are several problems. First, the relative density of the air near the earth, temperature, and amount of moisture in the air require the expression of velocity in an index of refraction, based on psychrometric sounding, which is integrated

Aslakson, Carl I. The new mapping methods -2

with assumed velocity. An equally important correction is the instrumental index correction designed to account for changes in the instrument itself. but this is equivalent to the index correction familiar to all engineers.

7. Turning to the methods of using the equipment, Capt. Aslakson gives the following example:

> "...let us consider two islands distant 500 miles from each other. Our problem is to measure this distance. We install a shoran ground station on each island. The function of these ground stations is to receive and retransmit the pulses emanating from a shoran transmitter installed in an aeroplane. ...by the method described above, the aircraft can measure two distances at any moment, one to each ground station. Obviously if the aircraft flies across the line joining the two stations, the sum of these two distances becomes a minimum when the aeroplane is in the vertical plane which passes through the two ground stations."

Geodetic distance is then obtained by resolving the purely geometric problem involving the known ground station elevations, the aircraft altitude and the measured slant distances. But single measurements of distance are of little value. and the method of "trilateration" is used to better establish position on the earth's surface. This is "a surveying technique analogous to the familiar tri-angulation of the surveyor, the essential difference being that geodetic triangulation sides are measured rather than angles." A comprehensive network of such trimateration is designed to cover the area under survey, with sides usually varying from 50 to 550 miles in length. Residual errors occur in measurement, but the process of least squares used in adjustment appears adequate.

8. The advantages of shoran trilateration over conventional methods are said to be:

a. An enormous saving in time, and
b. The possibility of surveying areas which conventional means are incapable of handling.

Examples are cited, including the 1800-mile U.S. guided missle programme survey (just over one year), a survey project which joined Crete to Africa (about two months), and the North Atlantic tie involving six shoran stations on the top of the Greenland Ice Cap. These are all high-precision shoran projects, also called "Hiran."

9. Conventional shoran, of somewhat lesser accuracy, has been used in several parts of the world. "The two best known conventional shoran networks are the great Canadian Network and a shoran network covering the entire country of Iran. Shoran has also been used extensively in Arabia, Libya, Bolivia, Guatemala and many other areas of the world."

10. The most efficient use of shoran is a programme called "combined operation," which uses the method three ways: (1) to provide trilateration stations for primary control, (2) as a navigating device for accurate aerial photography, and (3) to position each photograph taken in aerial photography by means of two shoran distances taken simultaneously with the photographic exposure. With full statistical treatment to determine the true position of the nadir points, maps of 1:50,000 can be produced with conventional shoran-controlled photographs, and of 1:25,000 with Hiran-controlled photographs. With about 80% of the world unmapped or poorly-mapped, it is felt that these techniques will be of increasing help to the conventional surveyor--and the ground surveyor's role will increase too.

A.D.M.N.

Evans, Luther H.
ALMOST HALF THE WORLD'S ADULTS CAN'T READ.
The New York Times Magazine, March 16, 1958, pp. 43-46. Map.
372 (100)

1. This is a discussion of the widespread illiteracy, generally underestimated, in our scientific age. Mr. Evans is director of UNESCO.

2. At least 44% of the world's adult population, or about 700,000,000 human beings cannot read or write. (Adult refers to those 15 years of age or older.) The best source of such information is the UNESCO study: "World Illiteracy at Mid-Century."

3. The definitions of illiteracy now in practice make measuring and comparing difficult. In terms of "functional literacy" (the ability to read and write well enough to engage effectively in all activities in which literacy is normally assumed in a cultural group) as much as 65% of the world's population may be illiterate. Even less stringent criteria place the percentage of "functional illiterates" in the United States, for example, at no less than 10%.

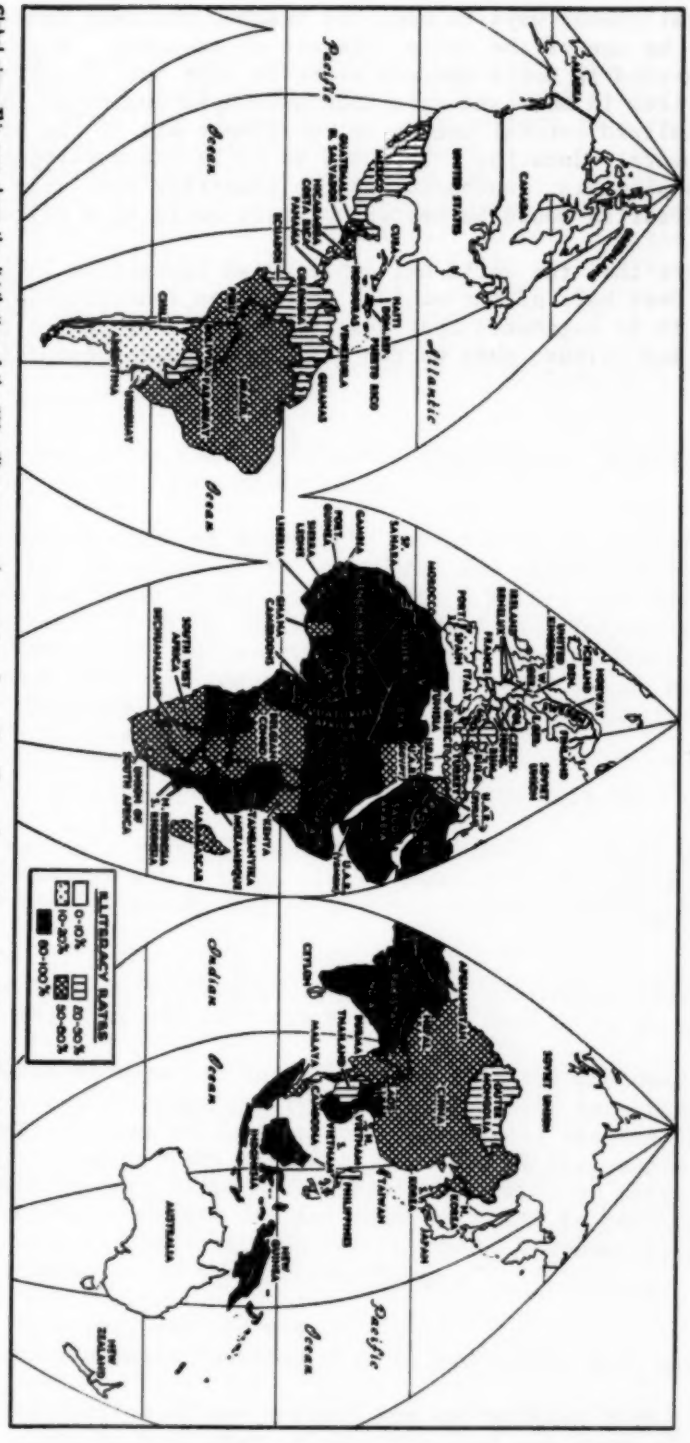
4. Many nations are attacking the problem, and the rate of illiteracy to the total population is declining. Nevertheless, the actual number of illiterates in the world is increasing because "the birth rate among illiterates is growing faster than schools can be built and teachers trained to teach the children." Yet experiments like those of Father Salecedo's contribution to Acción Cultural Popular in Columbia are encouraging. Three significant points were brought out in his successful efforts: First, the fact that illiteracy goes hand in hand with poverty, poor diet and an underdeveloped economy; second, the indication that the lack of teachers can be bypassed by using radio plus visual techniques, thus eliminating a lag while teachers are trained; and third, the bringing out of the point that the teaching of literacy to adults, to be effective, must be part of a program for community and personal improvement--to maintain marginal literacy a constant flow of suitable material is necessary.

5. It is not surprising that the underdeveloped nations have the highest illiteracy rates. In some African territories rates are as high as 99%, and in some Asian countries they approach 98%. The UNESCO report estimates about 200 million illiterates in South Central Asia and an equal number in Southeast Asia, while Africa has about 100 million and Central and South America have about 40 million. There are, however, pockets of illiteracy in the most highly sophisticated cultures, particularly in Southern Europe's more isolated agrarian areas. Both the United States and the U.S.S.R. probably have more than one million illiterates.

6. In most countries more women than men are illiterate. (Greece listed 1.4 million illiterates in 1951, and 1.1 million of these were women.) The contrary is true in the United States. Statistics collected in the United States during 1952 also show a great difference in the illiteracy rates of white and non-white populations and much less illiteracy among the younger adults.

7. Several ways to combat world illiteracy are discussed. The provision of schools is one need: "of every ten children in the world, five never go to school, of the five who do, only one remains in school past the primary grades." Adult education, however, is even more immediately critical to the development of necessary skills for economic growth. There is still a great deal of re-

The New York Times Magazine, March 16, 1958. p.43.



Global view—This map shows the distribution of the 700 million persons who cannot read or write. They make up 44 per cent of the world's adult population.

sistance to such education in many areas, and ways must be sought to overcome it. Several clever ways to meet the teacher shortage have been conceived, including the use of the newly literate as teachers. But 400,000 teachers would be needed in Latin America alone to wipe out illiteracy. It is coming to be realized in more and more underdeveloped countries that what is needed is a specialized central agency to coordinate all of the efforts in primary and fundamental education. Included would be the development of teaching, tools, visual media, textbooks; and in countries with very little literature, central libraries would be needed to start building a cultural core.

8. The fact that the world has achieved an impressive International Geophysics Year with over half of the world's population functionally illiterate is pointed out. And it is suggested that really great things can be done in science, education and culture when we tap all of our human resources.

B.D.N.

Hall, Edward T. and Oberg. Kalervo
THINGS TO KNOW ABOUT CULTURE
Community Development Review (ICA) No. 7, December, 1957, pp. 1-4
301 (100)

1. Recognizing that most technicians sent to a foreign area do not have unlimited time to acquire a "working knowledge of the local culture" (or to be convinced that such knowledge is necessary), the authors have outlined a series of principles for quicker understanding of culture as such. Both anthropologists, they see themselves as "specialists in the field of analysis of the ways of all men, whose job is to act as intermediaries between people of different cultures and to provide aids or short cuts to this process." The principles, which are to be used as a check-list at first, were originally written as an introduction to a manual prepared for the guidance of technicians serving overseas. Dr. Hall was formerly an Anthropologist, Foreign Service Institute, U.S. Dept. of State and is now President of Overseas Training and Research, Inc., a private nonprofit organization in Washington D.C. Dr. Oberg is Anthropologist with USOM/Brazil.

2. The text is presented as a series of brief discussions, each followed by a rule. We extract in part from these below:

a. "What we call culture of a people's way of life is learned. It is not innate and it can be changed. The fact that man learns his ways and can change them is the basis of our optimism for a better life for all manking. The principle means by which culture is learned and transmitted is language. In order to understand a culture intimately you have to learn the language, not only because there are inevitable distortions if you do not, but because every language...(exercises) subtle and all persuasive influences on the mental processes."

Rule No. 1: Learn the language in order to master the culture.

b. "Everything has a history. Societies and their cultures are the products of long historical growth. It is almost impossible to understand a cultural element, a particular situation, or a people without knowing what happened in the past.

Rule No. 2: If you are experiencing difficulty in understand something, look into the past and find out how things came to be as they are.

c. "All patterns of behavior and all things cultural not only have a function, but are also functionally interrelated with each other. If you change the smallest item of culture this change will eventually be felt and reflected in almost every aspect of the life of the people. Also, function implies balance between the various elements or parts or components which go to make up a society and its culture. This is particularly pertinent to the technician because when you introduce a change or an improved way of doing things you do these three things:

(1) Displace or modify the old way
(2) Set in motion a chain reaction that is eventually felt all across the land, and
(3) Advance the portion of the society you are working with - this advance cannot be such that it puts one part way ahead of the next--to do so is to destroy the balance, and people are forever trying to keep their lives in balance.

Hall, Edward T. and Oberg. Kalervo. Things to know about culture. -2

Because culture elements are functionally interrelated, we have come to view balanced programming as essential.

Rule No. 3: (In three parts)

(1) When you introduce something new, discover what you are displacing and find out the degree to which people are emotionally linked to, or involved with, the old element.

(2) When you change one thing, the concomitant changes in adjacent areas may be the source of resistance. Look around and see who and what is being affected.

(3) Never let one part of a program get too far beyond the rest. You cannot maintain an atomic age health service in 18th century type surroundings.

d. "Not only is culture learned, has a history, and is functionally integrated but it is carried by men. Some of these men are more strategically located in a given society than others. The joker for most of us is that the key figures in a given society (nation, state, or local community) may not be identified in the same way as they are at home. Sometimes there are figureheads whose function is to deal with outsiders including government officials. It is necessary, however, for the technician to identify, locate and work with, leaders of all types at all levels of the social system. Repeat: identify, locate and work with and through the local and other leaders at all times. They give prestige and sanction to your work and are the only ones who can mobilize a community.

Rule No. 4: If you are having trouble, check with the leaders. Be sure they are the real leaders and not someone put there as a figurehead.

e. "All societies are segmented into groups by: ethnic affiliation, class occupation, religion, politics, sex, age, region, etc. The point is that this process of segmentation is never the same from one society to the next. Each segment has its own particular brand of the parent culture. Each segment is in a balanced relationship to the other. Sometimes things are acceptable to one but not to another. One of your jobs will be to locate the important groups.

Rule No. 5: Identify and be aware of special interests and pressure groups.

f. "The cultural cement that holds a society together can be found in its institutions; such as, the state, economic, religious, legal, governmental, and educational institutions, family and kinship structures, and other voluntary and sometimes informal associations. All changes will eventually effect modifications in the basic institutions. Therefore, the representatives of institutions are always taking stands on issues affecting change.

Rule No. 6: Identify the institutional involvement in any change you are contemplating.

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h. "Countries and societies have a built-in dynamic of change, some move fast, some slow and they go in particular directions. They tend to accept some things and reject others soley in terms of their own inner dynamics.

Rule No. 8: Discover, identify, and work in term of the local dynamic of change and the major trends of development.

i. "Every culture defines the ways of person to person interaction. Much of the difficulty which a technician encounters on his arrival in a strange country is due to his inability to interact with the local people in a manner to create mutual understanding and confidence. This lack of communication media, which involves much more than language, often leads to culture shock on the part of the technician - a state of dissatisfaction and frustration which engenders a feeling of animosity towards the host country and its people.

Rule No. 9: Learn the modes of interpersonal behavior in order to meet the expectations of the people of the host country.

j. "As most technical assistance programs involve rural populations, it is important that the technician learn something of the folk ways of the people, such as: the age-old customs relating to the cultivation of the soil, folk medicine, diet patterns, community organization, and magical beliefs and practices.

Rule No. 10: Learn the customs of the rural folk. You need to know the nature of a custom you wish to replace or modify. Sometines customs can be used to advantage in putting across new ideas and practices.

A.D.G.N.

Heesterman, J.E.
PRODUCTION OF FRESH WATER FROM SALINE WATER
The Caribbean, 11:5, December 1957, pp. 113-114.
628.11 (729)

1. A general discussion of water scarcity and the treatment of saline water in the Caribbean area is followed by international research on the subject, and finally an examination of recent research trends as seen at the Symposium on Saline Water Conversion in Washington, D.C. in November 1957. Mr. Heesterman is Deputy Secretary General and Consultant for Industrial Development, Caribbean Commission.

2. In some parts of the Caribbean area fresh water is at least seasonally scarce. And the two islands of Curacao and Aruba have found it necessary to build largescale distillation plants for the production of fresh water by distillation of sea water. On Aruba, where the plant capacity is presently being increased, a project for agricultural use of the water is under consideration. More precisely, the proposal is for hydroponics or "soil-less gardening," a method of production of vegetables especially suitable when the supply of water is very restricted. There are other parts of the Caribbean where there is need for fresh water for agricultural uses; and, if the cost price could be brought down sufficiently, fresh water made from sea water might be an attractive proposition.

> "The problem of course is not simply how to make fresh water from saline water in general, but how to make at a price which the users will be able to pay. For some uses (drinking water, household purposes) this price can be rather high, but when the water is used for other purposes, for instance agriculture, a maximum price will be determined by strictly economic reasoning."

3. Organisations sponsoring and coordinating research on the conversion of saline water to fresh water are the Organisation for European Economic Cooperation (OEEC) and the United Nations Educational, Scientific and Cultural Organisation (UNESCO). The much wider research programme of the problems of arid areas generally forms the background for the UNESCO work on this subject.

4. The United States government has been actively engaged in sponsoring research on the production of fresh water from sea water through its Office of Saline Water, in the Department of the Interior, Annual reports covering progress of research in the U.S., as well as specific research reports are issued by this office.

5. Problems of saline water conversion was the topic of the Symposium recently conducted by the Office of Saline Water, Dept. of Interior, together with the U.S. National Academy of Sciences and the U.S. National Research Council. Speakers from the United States, United Kingdom, France, the Netherlands, South Africa, Australia, and the USSR were scheduled. The organisation of subjects for this Symposium is used to group the main areas of promise in the field of producing fresh water from saline, as below.

> a. General and Theoretical aspects. "An example of such a theoretical paper is a report which discusses thermodynamical characteristics of saline water conversion. Thermodynamics is a special devision of the science of physics and deals with changes of matter in which energy is involved. All

Heesterman, J.E. Production of fresh water from saline water. -2

the processes of conversion of saline water into fresh water have to be seen against the background of thermodynamical theory and this way of considering the problem is very encouraging because it convinces the research scientist that there are still considerable possibilities of reducing energy consumption and in consequence cost price of the conversion process."

b. Non solar Distillation Processes. Studies in this area deal partly with the more or less conventional processes which are said to have been developed to the limit of the technical possibilities. (e.g. a discussion of large scale multiple-effect evaporation plants), but other research indicates relatively new techniques in compression distillation and critical pressure distillation.

c. Membrane Processes. "Theoretically (thermodynamically) these membrane processes are extremely interesting and suggest possibilities for low cost production of fresh water. The processes, however, are mostly still in the stage of research and development, even if a small number of small plants (to be regarded as pilot plants) are already in operation. The best known of these membrane processes is the electrodialysis process in which the salt is removed from the water by the combined action of an electric current and 'non-selective' membranes. In actual practice this process separates a stream of saline water into a stream of fresh water of very low saline content and a stream of saline water of which the salt content is much higher than that of the original saline water."

d. Solar Distillation. It is thought that this group or research area is separated from non-solar distillation (above) "because of its special features of a technological nature as well as for the interesting economic feature of a source of energy which is absolutely free of recurrent cost."

d. Freezing Processes. "The principle of course is that if saline water freezes the ice crystals do not contain salt and if properly separated from the mother liquor, will yield fresh water on thawing. The principle is extremely simple, the implementation, however, presents problems of an economical as well as of a technological nature."

f. Various. A comparatively new principle of conversion is represented by one study on the conversion of saline water by means of solvent extraction. But here as in other ideas, the question must be answered: What will be the cost price of water produced by these interesting new methods?

E K I S T I C S

HOUSING & PLANNING ABSTRACTS

CLASSIFICATION SYSTEM USED BY DOXIADIS ASSOCIATES

A The Problems

B The Policies

C The Programs

D People, Development, and Ekistics**
- Geographic factors
- Social factors
- Industry
- Agriculture
- Transportation

E Houses

F Structures (exclusive of Houses)

G Community services
- Utilities and Social Services

H Regions

I Major urban centers

J Market towns
- Medium-sized and small towns
- New towns

K Villages
- Rural land

L Farms

M Surveys
- Census data
- Topographical surveys

N Research (and Technical Education)

O Planning (and Landscaping)

P Financing

Q Urban land

R Labor

S Materials

T Construction
- Systems of Building and Costs

U Implementation

V Management

W Administration

X Legislation

**Refers to centers of activities in relation to their surrounding regions.